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ABSTRACT

Data collected as part of the Robert Wood Johnson Foundation study of residency programs for training in primary medicine and pediatrics are analyzed. The seven residencies supported by the federal government and the nine residencies supported by the Foundation are compared. A brief description of the programs as they existed in 1978 are presented. The following areas were investigated: problems encountered in developing primary care residencies: goals of primary care residency programs: clinical affiliation: professional qualities of the teaching staff: enrollment in the programs: demographic characteristics of residents: educational background of residents: performance of residents on the National Board of Medical Examiners Examinations: performance of residents in internal medicine and pediatrics: plans of residents, reasons for selecting a particular program, and reasons for leaving primary care training programs: how staff rate the primary care residents: characteristics of the patient population: some characteristics of the training programs: time spent in activities, such the ward and outpatient services: program evaluation: sources of funding and funding information: and organization aspects of the programs. Appendices include sample questionnaires that were administered National Board to residents, program directors, and staff: interview questions: and interview responses. Among the recommendations are to include as many colleagues as possible in the development of the residency training program. (SW)

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A Comparative Evaluation of Federally and Non-Federally Supported Primary Care Oriented Medical Residency Programs

FINAL REPORT

Contract No. HRA 232-78-0115

June 1980

Edwin F. Rosinski, Ed.D., Project Director
Fred Dagenais, Ph.D., Principal Investigator
Office of Medical Education
University of California
1356 Third Avenue
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Final Report

Covers Period of Performance
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Contractor

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PREFACE

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The site visits were enhanced through the help of Alma S. Evans of the Office of Medical Education, Samuel S. Fager, M.D., at the time a Robert Wood

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Collection of the data was made possible through support of the Robert Wood Johnson Foundation. At no time did the Foundation interfere in the collection nor in the interpretation of the data. The Foundation's commitment to an objective, inpartial study was a refreshing experience. The Bureau of Health Manpower, similarly, was committed to an objective study and was always ready to offer assistance. The Federal Project Officer, Dr. Judy Kairath, gave appropriate support and provided timely guidance.

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Our sincere appreciation to all of them.

Edwin F. Rosinski, Ed.D.
Fred Dagenais, Ph.D.

San Francisco,
California
June 30, 1980

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ABSTRACT

In the early 1970's, the Robert Wood Johnson Foundation and the Federal Government embarked on supporting nonfamily medicine residencies in primary care. A study was undertaken of these first sixteen residencies to determine if (1) there was any significant difference between the Foundation and Federally supported programs, and (2) what conclusions and recommendations could be drawn regarding residency training for primary care.

The study utilized detailed questionnaires and site visits to interview approximately 350 individuals involved in the residency programs. The study focused on problems encountered in starting and continuing the programs, the programs' objectives, the kinds of clinical affiliations used, staffing patterns, the background of the residents, the patient population served by the programs, a description of the programs, the kind of patient care and educational activities in which the residents engaged, evaluation of the programs, patterns of funding, and finally what was being done to "institutionalize" them.

In addition to all of the "hard" data collected and included in the tables and figures, considerable anecdotal evidence was collected which deals with attitudes and perceptions about the programs, the residents, and future plans of the residents in primary care. The analysis of the data revealed little if any differences between the Federal and Foundation-supported programs. The analysis also led to a number of recommendations regarding the future of nonfamily medicine resident training for primary care.

CHAPTER I

INTRODUCTION

In the Robert Wood Johnson Foundation report Resident Training for Primary Care, published in 1978, it was indicated that definitions of primary care are almost as varied as the individuals who formulate them. Such definitions were discussed extensively and will not be repeated here. It is generally agreed, that "primary care" refers to the level of entry into the health care system where basic health services are provided. In addition, the often referred to four "Cs" are usually accepted as the essential components of primary care: Contact, Continuous, Comprehensive, and Coordinated. Once these dimensions of primary care are accepted, the four "Cs" can be met through family medicine practitioners and through modification in the training of internists and pediatricians. Both the Federal government and the Robert Wood Johnson Foundation have encouraged development of the latter types of residency training programs as a way to increase the number of practitioners offering primary care.

The Role of the Federal Government in Primary Care

Although the President and Congress are responsible for the development of national health manpower policies, these policies can only be implemented through the programs of a variety of governmental departments. Of the many Federal departments involved in health manpower, the most extensive and intensive is the Department of Health, and Human Services (DHHS) with its numerous agencies and bureaus. The DHHS, in turn, must depend on a wide variety of institutions and organizations to implement the policies formulated by Congress and the President.

To increase the number of health practitioners, the Federal government passed legislation to encourage institutions that teach the health professions to increase the number of health professions students, especially in medicine. This support began with the historic Health Professions Educational Assistance Act of 1963, when for the first time the Federal government assumed the responsibility of maintaining an appropriate pool of health professionals. Additional legislation was enacted in subsequent years. Legislation in 1965 supplemented the original act, and additional revisions were made in the Health Manpower Act of 1968. The national issues of geographic and specialty distribution were addressed in 1970 with the enactment of the Emergency Health Personnel Act. This act also authorized Federal support of residencies in family medicine. The Comprehensive Health Manpower Act of 1971, authorized direct support to medical schools under the condition that the institutions accepting the funds increase enrollments. The 1971 legislation also addressed itself to issues of specialty and geographic maldistribution, as well as to primary medical care. Finally, after considerable legislative debate, the Health Professions Educational Assistance Act of 1976 was passed by Congress and signed by President Ford. This legislation, as well as the extensive Congressional hearings on the Act, focused on primary care and accepted that primary care included family medicine, general internal medicine, and general pediatrics. The legislation stipulated that medical schools develop residencies in primary care in order to receive Federal capitation grants for the support of medical education. The legislative history of the Health Professions Educational Assistance Act of 1976 has been reviewed with remarkable and extensive detail by LeRoy and Lee (1977).

Since the passage of the Comprehensive Health Manpower Training Act in 1971, the Federal government has supported a variety of training programs in family practice and in primary care oriented nonfamily practice specialties.

Originally, six programs were established that involved the specialties of internal medicine and/or pediatrics with emphasis on primary care oriented training. The objective was to develop model programs that would train internists and pediatricians who were oriented toward primary medical care, and to develop, promote, and institute curricula in residencies that would eventually permit the training of some 4,000 primary care oriented physicians per year.

The Role of the Robert Wood Johnson Foundation in Primary Care

The Robert Wood Johnson Foundation at the time of its creation embarked on a policy directed toward improving ambulatory care in the United States. The Foundation fully appreciated that there were a number of ways that its goals could be achieved. It also fully appreciated that by itself it could not achieve that goal, that indeed the Foundation's efforts in the health field would be but a small portion of all that was expended by other groups and governmental agencies. The decision was made, therefore, to use the limited resources of the Foundation to focus on a restricted number of carefully selected health care areas.

In its awareness that ambulatory, "front-line" medical care represented one of America's most pressing health care problems, the Foundation formulated a program to develop a limited number of postgraduate residencies designed to attract a number of highly qualified medical school graduates. As will be seen in this report, the Federal government and the Foundation plans for residency training encouraged institutions to explore various ways in which residents could be trained in primary care, producing a variety of outcomes.

A Study of the Federal Government and Foundation Residencies

A study of the initial Federal and Foundation programs is timely for several reasons: (1) both agencies together have sponsored some fifteen programs (with one program in common) that differ in basic philosophy, available resources, location, and function; (2) enough time has passed to permit development of programs that have become stabilized in operation, with the ability to sustain themselves; (3) for many of the programs, residents are beginning to "graduate" and distribute themselves in the field; and (4) the time is ripe for the experiences of these programs to be analyzed, interpreted, and contrasted so that each may learn about the experience of the others, so that the Federal government will have the information needed to guide the development of additional programs intelligently, and so that the collective experience of all can be interpreted and made available to others who may want to develop similar kinds of programs.

Study of the programs for which data have already been collected is also timely in view of passage of P.L. 94-484, Section 784, which provided for grants for establishing forty to fifty additional residency training programs. Some of the "additional" programs are programs already in existence that were developed with funds provided by the Foundation. Such a rapid expansion of programs and of residency "slots" made the intensive study of existing models all the more urgent.

References

LeRoy, Lauren & Lee, Philip. Deliberations and Compromise: The Health Educational Assistance Act of 1976. Cambridge, Massachusetts: Ballinger Publishing, 1977.

CHAPTER II

DESIGN OF THE STUDY

The purpose of the study reported herein was to analyze data collected as part of the Robert Wood Johnson Foundation study of residency programs for training in primary medicine and pediatrics. As a part of that study, data were collected that were to be used to describe and evaluate seven nonfamily medicine primary care residencies supported by the Federal government from 1976 through 1978. Specifically, the study was designed to be comparative, examining the seven residencies supported by the Federal government and the nine residencies supported by the Foundation. However, because the Boston City Hospital program was supported by both the Federal government and the Foundation and was originally part of the Foundation's study, its place in the analysis and reanalysis of the data presented problems of interpretation. Therefore, at each point in the discussion when contrasts are made reference will be made about treatment of the Boston program.

Because this study depended almost entirely on data gathered for the Foundation study, an understanding of the design of the study is essential.

Background to the Design of the Study

During the proposal negotiations the Foundation expressed a desire to undertake a longitudinal study of the nine residency programs it supported plus the seven Federally supported programs. Because the study was initially viewed as longitudinal, the questions posed were rather general and included the following.

1. What are the identifiable institutional forces that led to the development

of each primary care residency program?

2. What organizational arrangement was developed by each program?
3. How do the primary care residents differ from traditional residents?
4. What are the relationships between internal medicine residents, pediatric residents, nurse practitioners, and physician assistants in the training programs?
5. By what methods are trainees selected?
6. What are the costs of developing new primary care residency programs?

During the time when a proposal was being developed, the Foundation decided to support only an abridged study. For the shortened study three issues were identified as salient:

1. A description and analysis of Foundation and Federally supported primary care residencies in internal medicine and pediatrics;
2. An analysis of the costs and sources of support for such programs including faculty salaries, stipends, overhead, patient care, and revenues generated by residents or faculty; and
3. A documentation of the process by which these programs are being institutionalized, including the allocation of institutional resources for support of faculty, and resident stipends.

The shortened scope of work dictated that the analysis of costs be studied only superficially because of the limits of time, and of human and financial resources.

The Final Design of the Study

A study that included the three issues of greatest concern was developed. The following outline represents the study design, which was feasible within the time frame and with the resources available.

I. INTRODUCTION

There are many definitions of primary care. Most appear to embody the concept of a variety of basic personal health services in which the physical, emotional, social, and economic status of the individual and the family are considered over a period of time. Operationally, there are a number of ways in which services as defined might be provided. Support of primary care residency training programs is one way.

II. PURPOSE OF THE STUDY

To describe and analyze selected primary care residency training programs supported by the Foundation and the Federal government.

III. OVERALL OBJECTIVES OF THE STUDY

A. To describe and analyze the education and patient care activities.

B. To analyze the costs and sources of support of the programs.

C. To document the process by which these programs become institutionalized.

IV. SPECIFIC OBJECTIVES OF THE STUDY

A. To describe the educational and professional background of residents in the program.

B. To document the reasons residents select a primary care career goal.

C. To document the reasons why residents select a particular program.

D. To determine how primary care residents in internal medicine and pediatrics compare with residents in traditional internal medicine and pediatrics tracks.

E. To determine if residents' expectations were met by the program.

F. To describe residents' future expectations as practitioners.

G. To describe the evolution of each residency program.

H. To determine the objectives of each program and how the objectives were developed.

I. To describe the organization of each program.

J. To describe the educational and patient care activities of each program.

K. To describe how each program is internally evaluated.

L. To describe the patient population seeking primary care services at each program.

M. To determine and describe in each program the patient care settings in which residents obtain educational and patient experiences.

N. To describe attitudes of other health professionals toward primary care residents and programs.

O. To identify the attitudes of other health professionals toward the teaching staff of primary care residencies.

P. To describe each participating institution's plans for institutionalizing the residency program.

Q. To describe the costs related to operating each program.

V. SPECIFIC FEDERAL OBJECTIVES

The objectives of the Federal study sponsors were presented as a set of questions:

A. What problems have been encountered by institutions in establishing, maintaining, or expanding programs? How have they been resolved?

B. What factors led to the termination of programs? How could they have been avoided?

C. What were the initial and continuing resource requirements for individual nonfamily practice primary care residency programs? What constraints inhibit program expansion?

D. How were programs financed? What has been the relative impact of Federal support compared with other forms of support for these programs?

E. What is the background of physicians who undertake and complete this training, including socioeconomic and academic factors? How do they compare with residents in other specialties?

F. What are the perceptions of residents in these programs?

G. Have individual programs established program goals and/or educational objectives? If so, what are they, how were they developed, and are they being met?

H. What methods were being used by programs for evaluating program accomplishments and outcome for individual residents?

I. What is the curriculum profile of the residencies including, but not limited to, required and elective elements, rotation through other specialty services, utilization of community resources, block rotations and offsite locations, proportion of inpatient and outpatient experiences, etc.?

J. To what extent are new health care practitioners (including, but not limited to, nurse practitioners and physician assistants) utilized by, related to and trained in such programs?

K. How does the curriculum in primary care oriented residencies differ from the curricula of traditional residencies in the same specialty?

L. What were the specific objectives of the Foundation and of the Federal government?

VI. METHODOLOGY

The methodology used in this study recognizes that data can take many forms and can be gathered in many ways. There is no single preferred system. When selecting one procedure over another, whether for gathering, analyzing, or reporting data, the questions asked were the following: "Is the technique appropriate for the situation?" "Will it help to answer the important questions?" "How much will it cost compared with some other technique?" After each of these questions was applied to a number of methods, it was decided to employ the following:

> A *resident questionnaire* to provide data on the educational and professional background of the residents (Appendix A),
>
> A *basic questionnaire* to provide data on program staff, educational experiences provided, patient care services rendered, and evaluation and operation of the program (Appendix B),
>
> A *clinical affiliations questionnaire* to provide data on the clinical settings in which patient care services are given (Appendix C),
>
> A *program directors questionnaire* to provide data on the evolution of the program, problems encountered, funding, and future plans (Appendix D),
>
> An *interview schedule* to identify attitudes of other health professionals toward residents, teaching staff, and the primary care training program in general (Appendix E),

An *interview schedule* to determine the plans for institutionalization of each program (Appendix F),

A *funding questionnaire* to provide basic data related to operating the program, including such items as salaries, stipends, reimbursement, and the like (Appendix G),

Use of *National Board of Medical Examiners* scores to describe the academic achievement of primary care, internal medicine, and pediatrics residents,

Grant applications to be reviewed to provide information on the historical background of each residency program, and

Identifying *comparable studies* of traditional internal medicine and pediatrics residencies and residencies in family medicine.

Development of the Study Techniques

The data-gathering instruments were developed in order to provide information related to the specific objectives of the study. Each question was critically analyzed to determine if it would obtain the necessary information related to each specific objective.

Early in the design of this study it was apparent that there would not be time to test the questionnaires in a pilot study. There were a number of compelling reasons why the pilot test could be bypassed. (1) The time limitation made it vital that the collection of data begin as soon as possible. (2) The Project Director had extensive experience in the construction of questionnaires. (3) The questionnaires would be critically reviewed internally, that is, by staff of the Office of Medical Education and colleagues in the University of California. (4) The questionnaire items solicited factual data, data which was not intended to be projective. Few of the questions could be interpreted as seeking "socially desirable" answers. This study was dealing with mature residents and program directors who were professionals of the highest order. There was little reason to expect biased responses. (5) The questionnaires were reviewed by a national advisory committee that was appointed to advise the Project Director on the design and conduct of this study. The committee and its activity are described below. On the basis of all of these considerations it was decided that a pilot study would add little, if anything, to the reliability and objectivity of the questionnaires. There was little reason to doubt that the questionnaires would solicit all the information they were designed to obtain.

The National Advisory Committee

An advisory group was assembled (Appendix H) that reviewed the initial study design and was available for counsel throughout the study. The Federal contract stipulated that an advisory committee be assembled and that one member be appointed by the contracting agency to represent the Federal government's interests. The original advisory committee, augmented by an appointee selected by DHHS-HRA, served for both studies.

The first meeting of the advisory group was especially helpful. The group received all of the instruments for critical review and comment prior to the first meeting. The meeting was devoted to a critique of instruments and procedures and a number of helpful suggestions of a substantive and technical nature were made. The group's greatest contribution was in the development of the interview schedule to be used at a meeting with each medical school dean. The purpose of the interview with the dean was to identify the institutional forces that impeded or promoted the development of the primary care residency program. The interview schedule obtained information on administrative plans to "institutionalize," that is, to make the residency program an ongoing, institutionally or internally maintained program upon termination of Foundation and Federal support.

Because the advisory group had expertise derived from extensive administrative backgrounds and considerable experience in designing studies and in devising interviewing techniques, their assistance in the development of the interview schedule was invaluable. For example, in the interview schedule, "For those who were against the Program (if any), do you feel their opposition was mainly a function of interdepartmental competition for funds in what is perhaps a steady-state budgetary situation or was it due to a definite philosophical difference of opinion?" was a question suggested by the advisory group. Responses to that question during the interviews solicited and obtained lengthy, detailed, and highly informative commentary. Without the advisory group this and other pertinent questions would not have been included in the study.

When the analysis of the data used in this study began, the advisory committee and the Federal Project Director met to review the plan and status of the study and to make recommendations and suggestions.

The last task of the group was to review the final draft of the report. As always, the group was critical, incisive, and most constructive. The advisory committee once again demonstrated the value of what an outside group of able and dedicated individuals can offer to the design and conduct of a difficult study.

Site Visits

Of paramount concern in designing the study was the necessity that the data be collected as expeditiously and as economically as possible. For these reasons the study relied heavily on the use of questionnaires.

Two important issues, however, were not as amenable as the others to questionnaires. Specifically they were (1) the attitudes of nonprimary care residents and other faculty and staff toward primary care residents and (2) institutional problems encountered in developing the residency program and making it an ongoing institutional activity upon termination of extramural support. The most efficient way information related to these two issues could be obtained was through personal interviews conducted during a site visit. The reasons for this decision were compelling. The issue of attitudes dealt with a personal (and professional) matter that some respondents might be reluctant to answer in an impersonal questionnaire. In a personal interview, in a one-to-one setting, the chance of a more candid response was far greater. The "personal touch" was considered essential. The issue of "institutionalization" required some in-depth probing through the use of open-ended questions. It was strongly held that answers related to institutional problems could only be obtained through personal interviews with the deans of each school of medicine.

Each program director was contacted and requested to set up a schedule for a site visit (Appendix I). In each case the program director was asked to set up interviews with nonprimary care residents, nurses, nurse practitioners, physician assistants, clinics directors, and faculty who had contact with the primary care residents. During these interviews the Interview Schedule (Appendix E) was used. In addition, a one-hour appointment with the dean was requested and the Institutionalization Interview Schedule (Appendix F) was used during those interviews.

During the site visits the program directors were given another questionnaire to complete (Appendix D). In addition, the Funding Questionnaire (Appendix G) was left to be completed by the individual most knowledgeable about the program's funding. The purpose of the interviews was not explained when the program directors were asked to arrange the site visit.

CHAPTER III

THE PROGRAMS

The six programs in primary care initially supported by the Federal government offered a separate primary care track in either internal medicine or pediatrics or a track in both disciplines. Tracking options were offered in the Foundation-supported residencies at Dartmouth, Harvard, George Washington, and the University of California, Los Angeles and San Francisco. Florida offered opportunities in university operated rural clinics; Missouri modified its straight internal medicine residency to include more primary care-oriented activities; and Rochester expanded and altered its ambulatory care program to permit residents in internal medicine, pediatrics, and family medicine to enlarge on their skills in an outpatient setting.

The following is a brief description of the programs as they existed in 1978. Some modifications may have occurred since then.

I. Federally Sponsored Programs

Baylor College of Medicine Program

The Baylor College program in primary care is an activity of the Department of Community Medicine/Division of Family Practice. Its significant objectives include the following: (1) to prepare residents for certification in pediatrics or internal medicine; (2) to prepare residents to work as members of a health team and appreciate the contributions of each member of the team; (3) to develop an appreciation for continuous and comprehensive health care; (4) to develop skills in organizing primary care health teams and to assess the quality of care; and (5) to apply appropriate psychosocial principals to health care.

The program has three basic components: a block rotation within the Baylor College of Medicine and affiliated hospitals, increasing longitudinal ambulatory care experiences outside the Texas Medical Center, and weekly seminars in a variety of medical and medically related subjects. In internal medicine the PG 1 block rotations usually include two months in the general medicine ward and two months in the pediatrics ward or outpatient department. One month each is devoted to the emergency room, pulmonary, cardiology, and psychiatric services, and neighborhood clinics. Three months are devoted to electives. PG 2 has four months in the general medicine ward, two months in cardiology and one month each in dermatology, ENT/ophthalmology, psychiatry, and gynecology. Two months are set aside for electives. PG 3 has four months devoted to the general medicine ward and eight months to electives. Electives include medical subspecialties such as renal diseases, rheumatology, neurology, and gastroenterology and in such diverse fields as psychiatry, pediatrics, dermatology, and ophthalmology.

Block rotations in pediatrics PG 1 include a two month assignment each in a general pediatrics ward, clinics, nursery, developmental clinic, and internal medicine. During PG 2 three months are spent on the general pediatrics ward, one month in pulmonary/rehabilitation, and one and one-half months each in the nursery, a neighborhood clinic, and pediatric neurology. Three and one-half months are set aside for electives. In PG 3 two months are spent in a clinic, another two months in the general pediatrics ward, one month each in the nursery and intensive care unit, and six months in electives. Pediatric electives include the subspecialties of hematology, cardiology, endocrinology, neurology, gastroenterology, and nutrition and may also include child psychiatry, internal medicine, ENT, dermatology, and pediatric orthopedics.

Continuity in ambulatory care experiences outside the Texas Medical

Center include three private multispecialty group practice clinics and the neighborhood clinic network of the Hartus County Hospital District. These sites have affiliation agreements with Baylor College of Medicine and provide two different practice models in which residents may obtain training.

Weekly seminars are conducted and include a variety of topics. They are offered jointly to medicine and pediatrics residents to acquaint them with the major issues in health care organization and financing, organization and management of health teams for the delivery of primary care, and clinical application of biostatistical and epidemiologic principles. Sociocultural factors influencing health and health care are given considerable attention as are the behavioral sciences including health care dynamics as they affect intrateam relations and the interface between the team and the family or community health agencies in ambulatory aspects of specialty care.

Inpatient, specialty, and emergency medicine training takes place in the Baylor College of Medicine-affiliated hospitals. The community medicine portion of the training is carried out by the faculty of the Department of Community Medicine with support from other community health institutions in the Houston area.

The Boston City Hospital Programs

The Primary Care Residency Program at Boston City Hospital began in July 1973 with support from the Federal government and the Boston Department of Health and Hospitals. Additional funds were received from the Foundation in July 1974 to set up a full-time teaching unit, to conduct a full-time evaluation, to establish a teaching unit in the East Boston Neighborhood Health Center, and to enable planning for a nursing pathway to complement the physician program. The request to the Foundation for support to develop a residency program in primary care for internists and pediatricians was for a three year period beginning July 1, 1976 and ending June 30, 1979. The project is located at Boston City Hospital Department of Health and Hospitals and was proposed as a collaborative effort with the Boston University School of Medicine and the Boston State College of Nursing. The objectives of the program were to train pediatricians and internists in primary care especially for the inner city, to increase the number of trainees, and to influence training programs in the Departments of Medicine and Pediatrics.

The first four medical and four pediatric house officers subsidized by the Foundation began their training in July 1974. During the first year residents follow either the prescribed program in medicine or pediatrics with variations emphasizing primary care. In addition, each resident has some "crossover" activity where the medicine residents spend ten months in medicine and two months in pediatrics, while the pediatric residents spend ten months in pediatrics and two months in medicine. Patient continuity experiences are provided at clinics in the East Boston Neighborhood Center and at the Primary Care Center at Boston City Hospital. In the second year, residents continue to have "crossover" experiences during a four month primary care block with concentrated seminars during this time. The third year emphasizes primary care service, teaching, and research. A significant portion of the third year is devoted to electives, with trainees functioning as program faculty.

The Boston Hospital Primary Care Center (BCH) is organized according to service teams. The teams consist of physicians, nurse clinicians, social workers, and family health workers with psychiatrists and sociologists available as consultants. Each clinic session is preceded by a conference at which patients to be seen that day are discussed and significant findings from the previous week are reviewed. The conferences emphasize the patients' medical needs, social and environmental aspects of medical care, psychiatric problems, social, family, and community problems, utilization of members of the team, and problems encountered in the care of well persons. Preceptors from various disciplines often sit in during the patient sessions.

Both pediatric and internal medicine trainees see adult and pediatric patients. The residents also share the care of families among themselves and with the nurse clinicians. A twenty-four hour per day answering service is available for patients, with first year trainees taking first call, coinciding when possible with their nights on call in the hospital.

The East Boston Neighborhood Health Center (EBNHC) provides ambulatory care experiences including an understanding of the home and community settings from which patients come. The center emphasizes the advantages of long-term continuity care and awareness of the patients' family problems and strengths. Patients and their families participate in the primary care program on a voluntary basis. Trainees obtain experience in a two-week postpartum visit with a nurse clinician and pediatrician, in a six-week postpartum examination of the mother with an obstetrician and internist, and in a six-week examination of the child with a pediatrician.

Case conferences utilize information from public health nurses, mental health workers, social service workers and representatives from community agencies. Conference topics include alcoholism, child abuse, multi-problem families and similar types of problems. Emphasis is placed on problems that can be handled in a health care setting on a regular basis.

Michigan State University, College of Human Medicine Program

The Michigan State program begun in 1977 offers a separate track in internal medicine primary care and pediatrics primary care in addition to the conventional tracks in straight internal medicine and straight pediatrics. The separate tracks were developed for a number of purposes, some of which include the following: (1) to provide more ambulatory clinical experiences with a corresponding decrease in experiences in inpatient acute and episodic illnesses, (2) to provide training that stresses preventive care and behavioral and family issues, (3) to train physicians for work as members of the health team, (4) to provide experiences in such areas as medical psychiatry, psychosomatic illness, outpatient obstetrics-gynecology, organization and economics of health care, medical ethics, and patient education, (5) to appreciate the concept of family health services through a health team approach, and (6) to provide medical students interested in primary care with appropriate experiences.

The primary care tracks provide marked experiential differences from those in the straight tracks. Outpatient primary care comprises approximately 47 percent of the three year training period with each trainee given longitudinal care experiences in the provision of primary care to some 300 families. The differences between the pediatrics and internal medicine primary care and the conventional straight tracks is probably better appreciated in examining some of the more specific objectives of the primary care program. The primary care objectives include, among others, the following: (1) to train physicians who can identify and deal with issues of health maintenance and disease prevention, (2) to train physicians with knowledge and skill in data collection, interpretation, and intervention, (3) to train physicians to work with other health personnel to assure effective utilization of health care resources, and (4) to provide a variety of electives in both medical and nonmedical subjects.

To achieve these objectives and to differentiate the primary care tracks from the conventional ones, the curriculum content varies. In primary care internal medicine, three years of continuity in ambulatory experiences are provided. These experiences include family conferences, audits, team meetings, and ambulatory care conferences. The first year of residency begins with an orientation to medical interviewing, community organization, medicine and society, and similar fundamentals. During PG 1 experiences in inpatient general medicine take up the bulk of the time, but time is also spent in the emergency room, on gynecologic service, and in electives. PG 2 consists of less time in inpatient general medicine than in PG 1, but a significant amount of time is assigned to subspecialty medicine in such fields as cardiology, nephrology, gastroenterology, hematology, and pulmonary medicine. The third year is devoted to inpatient general medicine, including several weeks of critical care, and electives in rheumatology, and infectious diseases. A mandatory block of time is also devoted to neurology/psychiatry or physical medicine and rehabilitation/psychiatry.

In pediatrics primary care, continuity in ambulatory experience is also provided. Introductory experiences in medical interviewing, team dynamics, human growth and development, and medical problem solving among others, are included. Most (6 months) of the PG 1 year is spent in general ward pediatrics with the remaining time spent in subspecialty ward pediatrics, neonatal intensive care, and introductory ambulatory pediatrics.

Six months of ambulatory pediatrics with additional time in neonatal intensive care, subspecialty ward pediatrics, and electives make up PG 2. PG 3 consists largely of electives with two months each on general pediatric ward supervision and subspecialty ward supervision. The behavioral science and medical humanities sequence is designed to enable the resident to perceive, evaluate, explain, and react to patient and physician behavior. The sequence is divided into six segments that deal with (1) the structure and process of biosocial growth and development, (2) interpersonal skills, (3) theoretical orientations and methods, (4) clinical aspects, (5) application of techniques learned including self-assessment, and (6) medical humanities and ethics.

The primary care program operates within the organization identified as Michigan State University-Affiliated Hospitals and Graduate Medical Education, Incorporated. A number of community hospitals working in concert as the Michigan State University-Affiliated Hospitals provide training sites. The training is under the jurisdiction of training committees in internal medicine and pediatrics that are composed of an equal representation from each of the participating community hospitals and the university medical center. The training facilities include a number of full-service community hospitals, and the Clinical Center of Michigan State University, which provides outpatient care as well as training for medical practitioners, osteopaths, and nurses. The family health center is part of the Clinical Center and provides continuity of care experiences.

Montefiore Hospital and Medical Center Program

This program in Pediatrics and Internal Medicine Primary Care, officially called the Residency Program in Social Medicine (RPSM), was funded by the Federal government in 1974. The goals of the residency include (1) to develop in residents the ability to apply primary care which includes the application of clinical, behavioral, and health team skills, (2) to promote work with communities through the application of health systems, community and organizational skills, research and evaluation, and educational and teaching skills, and (3) to encourage health habits and develop skills, in self-education.

To meet these goals the curriculum is divided into four areas. The first is the inhospital area involving the traditional activities related to inpatient, emergency, and subspecialty elective rotations. In internal medicine primary care in PG 2 and PG 3, there are also rotations in social medicine. In pediatrics primary care in PG 1, there are experiences at a juvenile center and in PG 2 and PG 3 an elective in social medicine.

The second area of the curriculum is devoted to ambulatory care. The ambulatory care experience provides the opportunity for continuous care of the same panel of patients for over a two and one-half-year period. The emphasis of this ambulatory setting is on health maintenance of the adult and child, prevention of illness, acute care problems, and long-term care of the chronically ill. Emphasis is also placed on the psychosocial aspects of ambulatory care.

Psychosocial training composes the third area of the curriculum and is an integral part of the clinical training in an ambulatory setting. It is largely implemented through a preceptorship that includes a psychiatrist and a family therapist who sit in with the resident in routine office visits to deepen the resident's understanding of the problems of the patient or family in its broader psychosocial context. In addition, the resident's skills in interviewing, management of psychosocial problems, and the developing of a treatment plan are enhanced. The psychosocial segment of the curriculum has developed into a core curriculum that provides a graded three year experience for all primary care residents.

The fourth curriculum area includes training in social medicine, which encompasses such topics as medical economics and politics, cultural anthropology, biostatistics, medical care evaluation, team education, and patient education. In addition, social medicine electives and a project in social medicine are required. Each project must demonstrate clear planning, implementation, write-up, and evaluation and is developed by the resident under the supervision of a faculty preceptor.

A major ingredient of this residency is the relationship between the faculty and the residents. To strengthen the preceptorship, as well as the entire residency, a faculty development program has been initiated. The objective of this faculty development program is to assist faculty members in developing (1) personal awareness, (2) skills in educational methodology, (3) rapport and communication with the residents, and (4) evaluation skills. While the pedagogic skills of the faculty are being developed through the inservice program, ongoing self-education in clinical specialty areas, not often included in existing hospital inservice education programs of most hospitals, is being obtained through increasing stress on continuing education.

The Martin Luther King, Jr. Health Center (MLK) has been the major site for ambulatory care training for this program. This site is supplemented by the Montefiore Hospital complex clinics. In addition to the main facility, a satellite store front center is located several blocks away. Residents begin at MLK during a one month orientation in the fall of their PG 1 year. In March of that year, residents begin to care for the patients of the graduating PG 3s, as well as new patients. Care for the patients at the MLK is shared by eight primary care teams. Each team consists of one or two internists, a pediatrician, two nurse practitioners, a dentist, a secretary, and four family health workers. The family health workers are community residents who have been trained as paramedical professionals.

Patients are seen by appointment and also on a walk-in basis. The family health workers are responsible for making appointments, arranging follow-up visits, making home visits, and performing social advocacy functions at the MLK. Nurse practitioners are involved in pediatric care, pre-natal and post-partum obstetrical care, gynecology, and maintenance of adults under supervision of an internist.

Continuity of care is emphasized with each family assigned to a physician, nurse and family health worker. Most full-time physicians have joint appointments in their respective Montefiore departments and the Albert Einstein College of Medicine.

University of Pittsburgh Program

The primary care program at the University of Pittsburgh began in 1977 and is confined to a single track in internal medicine. It is a modification of an earlier primary care internal medicine and pediatrics program started in 1974. The goals of the program are to train physicians in primary care who will be (1) able to coordinate a given patient's health care, (2) proficient in practicing medicine in an inpatient and outpatient setting, (3) concerned with how health care is delivered, (4) able to work with other health professionals, (5) sensitive to the role of the family and environment on individual health, and (6) skilled in giving and receiving consultative advice. In addition, the program has some more general goals, which include serving as a role model for medical students, strengthening the role of the general internist as a primary care physician, providing primary care physicians for southwest Pennsylvania, and providing health services to a segment of Pittsburgh and the surrounding areas.

The three year training program is divided into five basic areas: inpatient general medicine, ambulatory medicine, medical subspecialties, nonmedical subspecialties, and conferences. In PG 1, in addition to the same experiences obtained by the straight medicine residents the primary care residents have more ambulatory time in a special primary care clinic and increased emphasis is placed on the psychosocial aspects of patient care. In PG 2 the amount of time spent in ambulatory medicine is further increased in the primary care program. Primary care residents spend no time during PG 3 on inpatient general medicine, and approximately 40 percent of the subspecialty activities are devoted to nonmedical disciplines. The bulk of the fourth year program is confined to ambulatory medicine.

The inpatient experiences are obtained in three affiliated major medical-surgical hospitals. The medical subspecialty experiences are designed so that residents can gain experiences in the management of both hospitalized and ambulatory patients. Where ambulatory experiences in a medical subspecialty are not available at the University or at the two affiliated hospitals, arrangements are made to obtain these experiences in other settings.

The bulk of the ambulatory experiences are obtained in the Primary Care Clinic where during the three years of training, residents follow a panel of patients for longitudinal care. The patient population is made up of new patients assigned to the clinic and those discharged from the hospital service of the individual physician. The clinic provides family-oriented health care, handles acute illnesses and some trauma, has a patient appointment system that allows adequate time with new and return patients, provides supervision of residents and other staff, makes use of a health team, and allows for referrals for consultation.

The nonmedical subspecialties include community medicine and the emergency room. Psychiatric experience gained through regular patient consultation sessions, patient-oriented conferences, and an optional two month psychiatry elective. Seminars and conferences include ambulatory care conferences, medical grand rounds, subspecialty conferences, psychiatry conferences, and ward rounds. Primary care conferences deal with such topics as home care delivery issues, family development and therapy, office management and practice, and assessment of the primary care program. Interaction with pediatrics occurs through the primary care conferences, "crossover" electives especially in outpatient areas, and the Adolescent Clinic.

In order to deal with some of the issues confronting primary care, this program involves residents in planning and engages them in some research involving the use of computers in medicine and quality of care assessment including utilization review, audit studies, and tracer techniques, PSRO patient compliance, health maintenance including the development of some patient educational material, and studies in the continuity of care.

The staff of the program consists of the program director, staff interns, nurse practitioners, nurses aides, and a social worker. The evaluation component includes evaluation of the residents, staff, and program.

The training takes place largely in the University Health Center of Pittsburgh (UHCP), which is composed of a number of hospitals and clinics. Several other independent organizations in and around the Pittsburgh area also interface with the UHCP. The primary care program is a joint effort of the UHCP and Montefiore Hospital and Presbyterian Hospital, two independent affiliated hospitals.

Washington University Program (St. Louis)

This program in primary care pediatrics and internal medicine originally began in 1973 and accepts residents after they have completed two years of residency training in internal medicine or pediatrics. Following the successful completion of one year in the primary care program, applicants may be accepted for a second year, thereby completing a four year residency.

Although the overall goal of the program is to develop additional competence in internal medicine and pediatrics, a number of additional goals with a primary care orientation serve as guidelines. These include providing experiences in the utilization of allied health personnel, developing the health team as a means of providing primary care, filling a patient care need, and providing medical students with experiences and role models in primary care.

A major portion of the primary care training takes place at the Medical Care Group of Washington University (MCG), a prepaid group practice. The inpatient experiences take place on the medical services of Barnes Hospital. During the first year (PG 3) residents in primary care internal medicine spend approximately 50 percent of their time in internal medicine, 10 percent in obstetrics and gynecology, and 40 percent in electives. The time spent in internal medicine is scheduled so that approximately 62 percent is devoted to outpatient services and 38 percent to inpatient services. The primary care pediatrics residents' program is divided so that 60 percent of the time is spent in general pediatrics and 40 percent in electives. The entire general pediatrics experience is devoted to outpatient services.

The electives are limited to clinical subjects. In medicine these include dermatology, rheumatology, and office gynecology. In pediatrics these include office pediatric orthopedics and child psychiatry. Nonclinical electives are not offered, although residents who are interested may pursue research in sociologic aspects of health or in the quality of care. A series of primary care rounds is held which complement workshops on the application of the social sciences to medicine.

For residents in the second year (PG 4), activities are divided between the MCG and various electives. The clinical activities are similar to those undertaken during the first year with some differences in specialty arrangements. The second year is essentially a reflection of the first year with a greater amount of assigned responsiblity.

Each resident functions in the MCG with considerable responsibility. Each is on call in rotation with senior staff members after office hours and each admits patients to the hospital and cares for them as the primary care physician under staff supervision. Residents and staff work as a team caring for the patients.

The bulk of the primary care clinical activities take place at the Medical Care Group of Washington University. This health maintenance organization provides internists who serve as family physicians. Children are under the care of a pediatrician, and obstetricians provide maternity care. Consultants from the medical school faculty are available. Emphasis is placed on the prevention of illness and comprehensive medical services are available. Staff include clinical nurses, adult and pediatric nurse practitioners, social workers, and physician assistants. The staff composes the health team with whom the residents work. Medical students have an opportunity to rotate through the program on an elective basis.

The residents are evaluated through quality of care audits, and observation by the faculty. The entire program is evaluated through interviews of residents, ongoing discussions, and annual meetings with staff members.

II. Foundation Sponsored Programs

Because this study is a comparison of the Federally sponsored primary care residencies with those initially supported by the Foundation, an understanding of the Foundation-supported programs is essential. The following descriptions of the Foundation residencies appeared in Resident Training for Primary Care a 1978 report to the Robert Wood Johnson Foundation.

The University of California, Los Angeles Program

The University of California, Los Angeles Program has the following objectives: (1) increase the number of primary care physicians in general medicine and pediatrics, (2) attract talented individuals into primary care, (3) encourage the development of similar programs in affiliated hospitals, and, (4) encourage residents in the regular internal medicine track to reconsider the possibility of a primary care career. To accomplish these and other objectives, the program in medicine is a three year residency and builds on the traditional inpatient services that make up approximately 50% of the training time. In addition, residents are exposed to appropriate role models, and have an opportunity to learn to practice ambulatory medicine in a setting that stresses comprehensive care. The general pediatrics program has been expanded to include an ambulatory adolescent medical care unit.

In the program in medicine some rotations in the traditional subspecialties of medicine are displaced by expanded time spent in ambulatory medicine. Specifically, the program includes (1) block rotations in ambulatory care during all three years of training, (2) experiences in emergency medicine, (3) experiences in continuing care clinics, (4) experiences in adolescent medicine, (5) preceptorships in an extramural outreach clinic, and (6) rotations on psychiatric liaison, dermatology, and gynecology. Primary care and secondary care are integrated, thereby enabling residents to follow a group of ambulatory service patients even while assigned to a ward service. Regular conferences provide for exchange of information, intellectual stimulation, and exposure to faculty engaged in research related to primary care.

Several features of the program separate it from the traditional residency in internal medicine. Time spent in ambulatory care is expanded to eight weeks during the first two years and four weeks during the third year. The residents also return to the Continuing Care Center one-half-day per week for the duration of the residency. Case presentations, seminars, and patient demonstrations amplify clinical experiences. One session per month is organized as a morbidity and mortality conference, which emphasizes cost effectiveness of ambulatory and inpatient evaluations and factors affecting patient compliance. Residents in primary care are assigned to a preceptor in psychiatry throughout the three year program. To introduce the problem of lack of compliance by patients with the physician's recommendations, residents are exposed to a variety of concepts, including the possibility of considering patients as consumers who contract for health services. The concept that patients are responsible for activities to maintain their own health is stressed. Seminars are conducted on such topics as the problem-oriented medical record, interviewing the patient, community resources, problems of the adolescent, and office management.

The health team approach is developed as residents rotate through the Medical Ambulatory Care Center. Each team consists of a supervising faculty member, two primary care residents, one additional house staff member taking an elective in the Center, and a nurse practitioner. A social worker, a dietitian, and a clinical pharmacist are available for consultation. Each team sees patients as a group for three half-days per week. First year residents are supervised by third year residents and the faculty member assigned to the team. During the first year the nurse practitioner works with the residents, taking more detailed psychosocial histories. During the second year the resident and the nurse practitioner work together in taking the initial history and performing the physical examination of new patients.

The program in pediatrics strives to (1) increase its emphasis on primary care, (2) strengthen adolescent medicine, and (3) increase the sharing of experiences between pediatric residents and other primary care residents. The program includes activities in a modern pediatric outpatient facility that utilizes nurse practitioners and social workers. During years one and two, residents spend 12 to 16 weeks in the outpatient facility. Conferences on a wide range of pediatric primary care subjects are held. In addition to the block time in ambulatory pediatrics, a group of patients is assigned to each resident who will care for these patients throughout the three years of residency. Adolescent medicine is not viewed as a separate specialty but rather as an approach to the understanding of a particular age group.

The University of California, San Francisco Program

This is a three year program of "tracks" in primary care in medicine and pediatrics. The overall goal of the program is to train internists and pediatricians as competent generalists who are skilled in contemporary methods of primary care and educated to function as a member of a team to provide comprehensive care.

The specific objectives of the program include the following: developing judgment in the need for specialized consultation; orientation to the family; skill in family counseling in such matters as parenthood, human sexuality, and health education; skill to function as a member of a health team; the ability to plan and coordinate longitudinal care; an appreciation of interdisciplinary medical audit; and an awareness of the need to increase productivity in the provision of health services at moderate health care costs. The essential features of the program include integration of the primary care track with each department's current residency program, care of the acute and severely ill patient; early introduction to primary care experiences; continuity of the ambulatory primary care aspect throughout all three years; provision of continuous care for families; providing for clinical experiences simulating actual career practice during the final eighteen months of the program; and, making electives available during the final year.

The program provides a variety of experiences in several settings. An operational health services delivery model integrates the clinical activities of internists and pediatricians as well as a record system to facilitate care of an entire family. A variety of health professionals participate in the program, and experiences in community health agencies are provided. Finally, continuity of care by a multidisciplinary primary care team is provided in the hospital as well as in the ambulatory setting or home. Each resident has an early introduction to primary care, clinical experiences, case conferences, continuous responsibility for the care of selected families, continuity of care, and supervision by faculty skilled in primary care.

The program is organized so that each first year medical resident serves eight four-week blocks on inpatient medical wards, one four-week block on the inpatient neurology service, one four-week block on the oncology ward service, and one four-week block in the emergency room. In addition, there is a four-week block in in- and outpatient dermatology service. In the second year, the emphasis shifts to greater responsibility in ambulatory care. Considerable time is devoted to neurology and dermatology. Responsibilities in a multispecialty primary care clinic are provided, as well as supervised family- and individual-counseling experiences. In the final year the major commitment is to ambulatory primary care. Community health experiences are provided, and while on the wards the residents act as chief residents supervising other residents and medical students in the program. Opportunities for pursuing special interests such as family or sex counseling, preventive medicine, medical screening, and health education are available during the last year. The residents share on-call schedules with other medical house staff and during the last eighteen months have on-call responsibility for their own hospitalized patients.

The first year pediatric resident functions as a regular pediatric resident with additional responsibilities in primary care. The resident is assigned to at least two families who are followed with an internist colleague. The rotation includes three months in a clinic with two half-days a week in a multispecialty primary care clinic. Four months of the second year are spent in an affiliated hospital with rotations in the clinic and emergency room. One month is spent as a consultant in contagious and infectious diseases and families are followed in the multidisciplinary primary care clinic. Two months are spent in intensive care and normal newborn experiences. Specialty clinics, seminars, and conferences round out the second year. The third year allows residents to spend most of their time in the multidisciplinary primary care clinic and other primary care activities. Residents also have responsibility for their hospitalized patients and can develop special interest in delivery of primary care. Work in one or more community health settings is available.

The Dartmouth Medical School Program

The Dartmouth Program lasts for two years. It accepts residents who have had two years of prior clinical training. It is the only program in primary care offered at the Dartmouth Medical Center. The program began in 1972 on an experimental basis and was approved by the American Board of Internal Medicine, the American Board of Pediatrics, and the American Board of Preventive Medicine.

The overall objective of the program is to produce physician/provider-managers, that is, specialists in primary care. Another goal is to encourage physicians to locate in rural and other disadvantaged areas where physicians are in short supply. The program emphasizes the acquisition of clinical skills in ambulatory care and managerial skills necessary to plan, design, implement, finance, and evaluate health services. It is hoped that the residents involved will gain a better understanding and appreciation of the political, social, and economic determinants of health care. To achieve its aims, the program utilizes multiple small rural outreach facilities in addition to the Dartmouth Medical Center.

The program combines service and educational functions by providing residents with experiences that demonstrate physicians' responsibilities to their communities and by providing the resources to treat not only the individual patient but also the total community. Specific program goals are (1) to train physicians in health care administration, management, and evaluation and in the selection of methods best suited for rural settings and (2) to attract physicians to rural areas as primary care specialists.

Because this two year program accepts residents with two years of previous training in internal medicine, pediatrics, or psychiatry, the entering residents can quickly assume responsibilities for patient care. In the first year residents participate in four "modules"; (1) community maternal and child health, (2) community psychiatry, (3) ambulatory medicine, and (4) health systems management. The second year is devoted to modules of electives that include outpatient surgery as well as primary care research projects. The remaining time is spent providing primary care medicine in a teaching community.

Other educational activities occur throughout the two year program. Seminars are held on such topics as prepaid health insurance, national health service corps, health safety legislation, water pollution, and emergency health services. Visiting scholars are invited to address issues of public health and other topics relevant to the physician-manager.

The modular approach has been used in undergraduate medical education, but its application to postgraduate medical education represents an innovative approach. Community maternal and child health is an activity of the medical school's Department of Maternal and Child Health clinical service and of ambulatory care sites in the community. The module includes material from normal growth and development to child advocacy and child abuse. In the ambulatory care sites, residents have a number of responsibilities, including coordinating maternal and child health services, evaluating health services, and evaluating community attitudes toward health services.

Community psychiatry is part of the educational activities pursued at the Department of Psychiatry's community mental health center. This module includes material ranging from development of an inventory of resources and techniques in the care of the mentally ill to understanding the contribution of the environment to life style and behavior in both health and illness. Training in community psychiatry includes a three month rotation in a walk-in service crisis clinic where a variety of emergency and diagnostic problems are seen.

Health systems management consists of a three month period of instruction covering subjects considered essential to the development of the physician-manager. There are fourteen courses in this module including such topics as biostatistics, research design and techniques, environmental health, epidemiology of health and disease, health services and administration, and health and public policy.

The community teaching experience provides for six months in a selected community practice. A final quarter is devoted to a community research project. Residents apply their research skills to studying and recommending improvements in some specific aspect of inpatient care in ambulatory care sites affiliated with a community hospital. All residents become involved in the community's health agencies as the opportunities become available. Upon completion of the two year training program, residents make an oral presentation summarizing their work.

As of Spring 1978, the program planned to phase out in its present form over the following year. It was to become a three year primary care residency program within the Department of Maternal and Child Health, with a fourth year fellowship in primary care devoted to developing research and teaching skills that would be offered by the Department of Community Medicine. It was anticipated that the Department of Medicine would be developing a similar primary care residency program. The fourth year fellowship in primary care medicine offered through the Department of Community Medicine would be made available to trainees in this program as well.

The University of Florida Program

The University of Florida's College of Medicine request to the Robert Wood Johnson Foundation was for partial support for a rural medical care component of a primary care program. The rural component is administered by the Division of Rural Health of the Department of Community Health and Family Medicine and involves residents from the Departments of Medicine, Pediatrics, and Community Health and Family Medicine.

The rural component of this program is but one of several activities directed toward (1) encouraging a larger number of medical school graduates to enter primary medical care, (2) broadening the scientific base of primary care, and (3) contributing to the redirection of education and public policy in the interest of primary care. Other activities directed toward these goals include a review and refinement of the content of primary care, faculty development, coordination with other professionals, community services, demonstration of accountability, and research.

An ambulatory care program has evolved gradually. It began as a joint effort of the Departments of Medicine and Pediatrics to provide nonbedside teaching experiences for medical students and residents in clinical settings outside the university medical center. The Department of Community Health and Family Medicine evolved out of the efforts of the Department of Medicine to provide teaching and health services in rural areas.

The rural medical program consists of independent medical care units in four rural counties. Each clinic is fiscally separate and independent; the clinics were originally organized with the assistance of local committees, which evolved into administrative boards. For teaching purposes the four counties are related administratively within the State Division of Health, and in the Division of Rural

Health in the Department of Community Health and Family Medicine. The clinics' programs are coordinated by the college, and most of the faculty teaching in the ambulatory clinics visit more than one center on a weekly basis.

At the rural clinic in Mayo, Florida, a combination of medical students, student nurses, residents in internal medicine and family medicine, and a full-time staff of five local employees provide health services six days a week and emergency services twenty-four hours a day seven days a week. Faculty from the college visit the clinic four days a week, providing medical services to patients and participating in teaching activities. A full range of health services is provided. Programs in preventive medicine and community health are also fostered.

The clinic at Trenton, Florida, provides health services to more than 6,000 patients annually. It is staffed by two physician assistants who live in the community and provide twenty-four hour service. Supervising faculty visit the clinic four or five times a week and supporting staff include a registered nurse, a medical assistant, and administrative staff. Both medical students and physician assistant students serve at this clinic.

Dowling Park consists of an 80-bed nursing home, a retirement village for 300 elderly people, and an orphanage of approximately 50 children, all sponsored by the Advent Christian Church. Residents and faculty of the Departments of Medicine and Community Health and Family Medicine provide the medical care for members of the Dowling Park community. Faculty visit the site two days a week to conduct outpatient clinics and attend the nursing home patients. Medical residents and medical students make rounds on all nursing home patients. Dowling Park is also the site of several research efforts directed at improving patient care, including one on the attitudes of employees toward care of institutionalized elderly people.

Grove City Center is a more recently developed patient care and training site. It is an area identified as medically underserved by the National Health Service Corps, and for two years a National Health Services physician practiced there. Physician assistants and a nurse staff the center and live in the community. They provide twenty-four hour coverage and continuity of care for patients. Residents in medicine and community health and family medicine work with the physician assistants in providing ambulatory care. Medical students also rotate through the facility.

One of the more dramatic characteristics of the rural settings is their isolation. These settings are quite different from the medical center, and the residents have complete responsibility for their rural patients. The remoteness of the settings also creates situations in which residents must assume early responsibility for difficult decisions because although they have access to faculty for consultation, often immediate decisions must be made.

The Harvard University Program

The Harvard Primary Care Residency Program is offered by a confederation of several Harvard-affiliated institutions. These include hospitals, ambulatory facilities, the Harvard Community Health Plan, the Harvard School of Public Health, and the Harvard Medical School. Each hospital has designed a separate three year track for those residents interested in primary care. The first year is modified slightly from the traditional internship with the exception of Massachusetts General Hospital, where 40% of the year is devoted to ambulatory care. Fifty percent of the second and third years of residency is devoted to ambulatory experiences in all programs. The third year also provides for electives, additional required activities, teaching responsibilities, and greater independence in the practice of medicine. The programs of the participating hospitals, clinics, and other sites are coordinated by a steering committee that represents the participating institutions.

Each hospital determines the number of trainees it can accept in its primary care program, recruits and selects the trainees, identifies and appoints administrative and clinical staff, and selects from its entire service program those activities best suited for training the primary care physician. In addition to clinical teaching, conferences and seminars are offered that focus on such topics as the organization and delivery of medical care and clinical epidemiology as it applies to the primary care physician. A brief description of programs in the participating institutions follows.

Beth Israel Hospital and Beth Israel Ambulatory Care Center provide a common inhospital rotation, whereas some residents receive ambulatory care training at the Harvard Community Health Plan-Kenmore Center and others at the Beth Israel Ambulatory Care Center. After a straight medical internship, the primary care residents join the program at the junior level. The junior residents spend one-half of their time on the inpatient service including wards, intensive and coronary care units, emergency room, and electives and one-half of their time on the ambulatory services managing a panel of patients as members of a health team. Ongoing training in psychiatry is provided on the ambulatory service.

The residency at Peter Bent Brigham Hospital is three years. The first year of the program is a straight medical internship with additional duties in the primary care clinic as well as sessions of a journal club and seminars. In the second and third years of the program, six months of each year are spent on the inpatient service and six months in an ambulatory setting. The ambulatory experiences include establishing a medical practice in the Pearl Primary Care Clinic in association with one of the staff internists and for some of the residents a rotation at the Kenmore Center of the Harvard Community Health Plan.

The Harvard Community Health Plan is a prepaid, HMO-type group practice. Residents rotating through this program spend time seeing new and return medical patients, walk-in patients, and subspecialty patients. Staff internists serve as preceptors to the residents. In addition, conferences, lectures, and seminars are held.

Massachusetts General Hospital and Related Programs also offer a three year residency in primary care. In the first year, 60% of the time is spent obtaining inhospital experiences with two months each spent in the emergency ward, the private medical service, and the departmental medical service. The remaining 40% is spent in the Primary Care Unit (PCU). During this time, rotations in dermatology, psychiatry, orthopedics, and gynecology are organized as well as general medicine sessions. The second year consists of six months of inhospital service and six months in the PCU where residents continue caring for their own panel of patients. Sessions are held for psychiatric case reviews. The third year provides in hospital experiences including a one-to-two month experience as a chief resident in a community hospital. During their rotation at the PCU, residents are responsible for teaching and supervising medical students, interns, and residents. Seminars on the behavioral aspects of primary care are held as well.

Cambridge Hospital, Mount Auburn Hospital, and Cambridge Center of the Harvard Community Health Plan are the most recent of the affiliated programs in primary care. At these sites each resident participates in the program for two years with roughly one-half the time in inpatient experiences and one half the time in ambulatory experiences, with the year divided into four three month blocks. For inpatient experiences residents rotate through medical wards, the emergency room, the intensive care unit, pre- and postsurgical wards, and subspecialty units. In the second year increased responsibilities for supervision are given. In the ambulatory block residents work with a preceptor, assume responsibility for a panel of patients, and follow the patients for two years. Subspecialty experiences are provided including psychiatric sessions. There is also a journal club. During the two years residents have the opportunity to work with a nurse practitioner. Residents participate in night coverage and with preceptor back-up manage patients requiring medical assistance.

The University of Missouri-Kansas City Program

The proposal from the University of Missouri-Kansas City requested funds for altering and strengthening the internal medicine residency with experiences related to primary care. The residency is a three year program with the goal of producing board-eligible physicians trained in internal medicine and disciplines related to primary care.

The residency is based in docent units of the University of Missouri-Kansas City School of Medicine and its primary teaching hospital, Kansas City General Hospital and Medical Center (Truman Medical Center). A docent (preceptor/tutor) unit is a patient care environment designed to permit the education of undergraduate medical students and residents in primary care. As part of the unit other personnel include nurses, nurse clinicians, a clinical pharmacist, a clinical medical librarian, and graduate students in pharmacy and nursing. The docent units include inpatient areas as well as a large outpatient clinic area for ambulatory care. A unit manager attends to the administrative details of each unit. Each health care docent team has its own prescribed group of patients and provides total health care for those patients through both inpatient and outpatient services.

Residents assigned to a docent unit provide the continuing care to the allocated group of patients and participate in the education of the medical students. For three months of each year residents are assigned to the inpatient and outpatient service of the docent unit, and for the remaining nine months of the year to other hospital rotations. When rotating to other hospitals, residents continue to provide ambulatory service to the docent unit on a one half-day per week basis. As a member of the docent unit, each resident is on the inpatient service for three months of each year and has continuing outpatient responsibility in the outpatient service of the unit. As the resident progresses through the program, educational responsibilities are increased as are responsibilities for the supervision of the health team.

While on rotation at the Kansas City General Hospital, residents participate in the provision of services to the geriatric patient population at the Mission East Nursing Center, a complete nursing home. In the role of medical doctor to the geriatric patient, the resident provides the initial physical examination and prescribes medications in addition to physical and occupational therapy. By being assigned to one docent for the entire duration of the training program, each resident has the benefit of continuing guidance, supervision, and evaluation.

The rotation to Jackson County Hospital (Truman Medical Center-East) for three months is an extension of the docent unit of the Kansas City Hospital. The outpatient clinics are staffed by outreach nurses, clinical pharmacists, and other support personnel. The primary care unit at Jackson County Hospital is staffed with family physicians as well as internal medicine faculty members. This program includes conferences, team therapeutic sessions, and experiences with the health team. While the educational experiences the resident receives at Jackson County Hospital are similar to those at the docent unit, the difference is in the patient population treated rotations which are available in a variety of specialties in a number of community hospitals.

The University of Rochester Program

The program at the University of Rochester is an expansion and alteration of the ambulatory care services, enabling all medical, pediatric, and family medicine residents to increase their primary care skills. Continuity of care and collaborative team approach are emphasized because the program strives to develop skills and attitudes related to primary care.

Specifically, the objectives of the program are met by activities that deal with some of the following: (1) patient interviewing, physical examinations, and laboratory techniques related to the practice of medicine, (2) medical record and data collection systems appropriate to the practice of medicine, (3) management of acute medical problems including medical and surgical emergencies, (4) management of chronic disease with an understanding of the referral process, (5) collaboration with allied health personnel working closely together on medical, social, psychological, and economic problems, (6) preventive health services with the application of community medicine and preventive techniques to clinical practice, (7) the organization and economics of medical care, (8) the physician and the community with special emphasis on health needs and health indexes, and (9) continuing self-education in primary care medicine.

The program progresses from the usual short-term rotations in the management of acute and severely ill patients to more ambulatory and longitudinally focused care of patients in a variety of primary care and specialty settings during the later stages of the program. Residents are assigned to a population of patients for whose care they are responsible throughout their training.

The first year in pediatrics and the first and second years in medicine are identical, regardless of whether pursuing a primary care or specialty career.

Separate tracks evolve thereafter. Internal medicine and pediatrics residencies at Strong Memorial Hospital include a core training in continuity care. A health team is responsible for organizing and supervising the total health care needs of patients including the period spent as inpatients. The purpose of the longitudinal care experience is to develop interviewing and examination techniques appropriate to primary care. Residents also gain experience in methods of data recording and analysis, management of selected chronic diseases, observations of normal growth and development, management of psychosocial problems, and establishment of professional relations with other members of the health team. Opportunities exist for residents to elect additional time in the continuity program. The program also includes seminars and research projects. Experiences in community settings for approximately two half-days per week during the last year of training are available.

Extramural primary care settings include neighborhood health centers, a prepaid group health plan, several rural health programs, and a selected number of private group practices. The settings also include solo practice, single specialty, multispecialties, and internal medicine and pediatrics in various combinations. The use of a variety of primary care settings avoids the problems usually associated with developing and operating a university-based service program. Residents in the third year of pediatrics and third and fourth years in medicine spend approximately two one-half days per week in one or more of the available settings. Clinical subspecialty experiences can be obtained as either relatively short block assignments or as longitudinal experiences.

A seminar program is conducted weekly during the third year of pediatric training and third and fourth year of medical training. The seminar program is conducted in addition to the regular departmental Grand Rounds. Research experiences in health services are encouraged in the third year and are mandatory in the fourth year and during fellowship training. Projects emphasize the application of epidemiologic and statistical principles in research design. During the third and fourth year residents may elect one-half day in some aspect of community health.

The Family Practice Program is situated at Highland Hospital and is a division of the Departments of Medicine, Pediatrics, Preventive Medicine and Community Health, and Psychiatry within the University. Training of family medicine residents takes place with other university residencies. Residents operate a group practice that provides them with experiences in continuing and comprehensive health care of families. As residents progress in their training, they assume the major responsibility for the operation of the practice. Experiences are provided in pediatrics, obstetrics-gynecology, surgery, and emergency room service. Conferences are held on a regular basis.

The George Washington University Program

The primary care residency program is a joint responsibility of the Department of Health Care Sciences and the Department of Medicine. The Department of Health Care Sciences was established in 1973 and was charged with the responsibility of developing educational and service programs which enhance the primary care model within the university medical center.

Integrated within the Department of Health Care Sciences is a significant portion of the primary care internal medicine and pediatric ambulatory care facilities as well as the emergency room. During the first year of the Department's existence, the major emphasis was on reorganizing and restructuring the traditional outpatient departments and the emergency room. The purpose of the reorganization was to enhance the quality of services rendered, at the same time to improve the setting in which ambulatory care was provided as part of the undergraduate medical curriculum. During the ensuing year the Department devoted its attention to the development of service modules, including a health maintenance organization, a home care program, and a drug dependence unit.

Along with the development of the service components, a comprehensive training program was developed. The training program included residency and undergraduate medical education, and nursing practitioner and physician assistant education. Health care teams were developed to provide primary patient care. Team members included a physician's assistant or nurse practitioner, nursing assistants, and a receptionist. Trainees were integrated into these teams as full participants in the health care delivery process. In addition, research in the process of health care delivery continues to be actively pursued, including studies on physician behavior in lost generation ambulatory care settings.

The proposal to the Foundation was not limited to development of a residency program but incorporated a number of general goals including the following: (1) develop a graduate education model that would attract students to primary care, (2) produce health personnel for the delivery of primary care services, (3) develop a research model for the study of educational methods in primary care, and (4) promote the development of the health team concept.

During the initial years of the project, residents were recruited into the program for PG 3 after having completed two years in medicine or pediatrics. Subsequently, residents were accepted for a basic three year program in either medicine or pediatrics.

The first 18 months of the program is largely hospital based, mostly comprising internal medicine or pediatrics with experience in inpatient units where patients are not assigned to beds by specialties. A primary care continuity experience is provided longitudinally throughout the training period. The next twelve months is largely ambulatory with a focus on the family unit, but within the setting of the academic health center. While in the primary care setting, the residents are paired and assigned to one of the health care teams, to the mental health team in the prepaid group practice, and to the general internal medicine or pediatric practices in the hospital clinics. Ambulatory experiences, other than primary care medicine or pediatrics, involve the integration of specialties on a longitudinal basis and the rejection of the "rotating specialty" format. During the last 6 months, additional hospital-based experiences are provided along with the continuity experience.

Members of the health team, including the residents, are trained not only to be comfortable in their own professional identity, but also to be aware of the role and scope of services rendered by other members of the team. This training goal is achieved early in the education of all health personnel. Physician assistant students and nursing students receive their introduction to clinical medicine in concert with medical students, and residents in medicine teach physical diagnosis to physician assistant students.

The staff for the program include members of the faculty staff of the Department of Health Care Sciences and of the Departments of Internal Medicine and Pediatrics. These include physicians with board certification in internal medicine, pediatrics, and family practice and nonphysicians such as nurse practitioners, physician assistants, psychologists, social worker assistants, and dietitians.

When indicated, medical subspecialty, surgical, obstetric, and orthopedic consultants and faculty for educational programs are available from departments located nearby in the hospital or clinic building. However, specialty care is not encouraged because the majority of the problems can be managed by the primary care physicians.

Residents also receive experiences in such areas as home care of patients with cancer, epidemiology, community medicine, and geriatrics. A full-time psychologist coordinates the mental health efforts of the program with support from psychiatrists, social workers, mental health workers, and part-time drug counselors. Pediatricians are also part of the faculty of the division because the program serves as a family health center. Through ongoing research activities of the Department and in the delivery of health services, residents are exposed to a variety of problems and issues in health care delivery.

CHAPTER IV

RESULTS

The results in this chapter are presented under eleven headings or sections: Problems, Goals and Objectives, Clinical Affiliations, Staffing, Residents, Patient Population, Training Programs, Educational and Patient Care Activities, Evaluation, Funding, and Institutionalization. Each section contains data on the Federally supported residencies, a comparison of Federally and Foundation-supported programs, and overall findings based on data combined from both the Federal and Foundation studies. Information in these eleven sections was collected through questionnaires and interview schedules described in Chapter II and included in the Appendices. One aborted Federal program was not described in the previous chapter nor was it included in the analyses because no information on it was available. Therefore, only six Federal programs are included in this analysis.

The section on Residents follows a somewhat different format. Here the primary care residents in the Federally supported programs are compared, when appropriate, with straight medicine and straight pediatrics residents in training at the same institutions at the time of the site visits. Then the Foundation residencies that offered separate tracks in primary care medicine and/or pediatrics are contrasted with the Federal ones. This comparison excludes the Foundation-supported residencies at the University of Florida, the University of Rochester, and the University of Missouri - Kansas City. These three were nontracking programs as described in Chapter III. Reducing the comparison only to the Foundation's tracking programs in turn reduces the total number of residents, but it is necessary in the interests of accuracy because the three Foundation's nontracking programs are different from the tracking ones in a number of ways. Another comparison is made by combining the Federal and Foundation's tracking residents and combining the residents in straight internal medicine and straight pediatrics present at the same institutions at the time of the site visits and then making a comparison between the combined primary care and straight residents within each track.

As indicated in the report to the Foundation, the results are presented for all of the programs as individual programs. Where this is done, each program reported a single datum point, or a mean figure. At times separate data on several aspects of a program were provided such as for each major clinical affiliation. If it was possible to average data without distortion, averaging was done. If the averaging would distort the findings, data for each aspect are reported separately. Reading the text should make it clear whether the results are based on averages or on one or more programs.

Finally, the volume of data collected in this study was of such a magnitude and nature (i.e., anecdotal) that much of it could not be included in this chapter. The Appendices contain a wealth of information and should not be overlooked. The responses to many of the questions in the questionnaires and site visit interviews are a treasure of anecdotal data.

Problems

Academic institutions, especially university medical centers, cannot be characterized by their enthusiasm to initiate new approaches to the delivery of health services by modifying their educational programs or how the university-based medical services are provided. Whereas university medical centers have always been in the forefront of scientific developments, and rightfully praised for their scientific and scholarly achievements, they have been slow to develop innovations in education, especially graduate education. Because of the many complex issues to which an institution must address itself in initiating educational change, this study examined some of the major problems that were encountered in starting primary care residencies. This was done by examining the responses to (1) Questions 20 and 20A in the Basic Program Questionnaire (Appendix B), which dealt with information on problems initially encountered (2) Questions 4, 5, and 6 in the Program Directors Questionnaire (Appendix D), which were concerned with what problems continue and who or what helped or hindered program development, and (3) Questions 3, 5, and 6 of the Institutionalization Questionnaire (Appendix F), which were asked during the interviews with the deans or vice presidents for medical affairs, which pursued in detail the issue of problems encountered and how they were resolved.

Table 1 is a summary of the problems encountered at the Federally and Foundation-supported residencies. The number of problems each Federal program encountered ranged from only two in one institution to ten in another. The program that initially encountered only two problems cited them as lack of funds and colleague hostility; the latter problem seems to characterize the Federally supported residencies. This institution continues to encounter the problems of funding, but colleague hostility has diminished considerably because the program in primary care is now perceived as one of "substance" and quality.

Three institutions cited three problems that made it difficult to get started. All mentioned colleague hostility. In addition, one cited problems related to recruiting faculty and lack of funds. Another cited problems related to recruiting faculty and residents, and another encountered problems of funding together with the negative perception of primary medical care.

The two programs that initially encountered the most problems continued to be troubled by those same problems, but to a lesser degree; these included obtaining faculty, obtaining space, obtaining residents, an inadequate patient load,

TABLE 1

RANK ORDER OF PROBLEMS MOST FREQUENTLY ENCOUNTERED IN DEVELOPING PRIMARY CARE RESIDENCIES

Problem	Rank Order of Problems*	
	Federal	Foundation
Funding	2	1
Obtaining faculty	4	4
Negative perception of primary care	3	2
Colleague hostility	1	3
Inadequate patient load	7	5
Obtaining space	6	6
Obtaining residents	5	7

*"1" the problem most often encountered; "7" the problem least often encountered.

colleague hostility, and negative perception of primary care. The only problems not cited by these institutions were those related to funding and obtaining hospital beds.

A closer analysis of the data from the institutions with the most problems (10) and the least (2) provides an interesting study in contrasts. The one with the most problems attributed its difficulties to lack of support - open hostility - by the majority of the medical school and in particular the staff of the department of pediatrics. In addition, the local community family practice group was non-supportive and sided with the department of pediatrics. The arguments against a primary care residency centered around interdepartmental competition for funds and failure to "bring along" a powerful private practice medical community. The problem was further compounded because there was no full-time head of medicine to support the program in a more forceful manner. During the course of the site visit, it was learned that the proposal for Federal support was written and submitted on an ad hoc basis with little faculty consultation or consent. Support was sought only after the program was funded. The dean attempted to reduce the hostility and opposition, but had been only moderately successful at the time of the site visit.

In contrast the program that claimed the least number of problems initially encountered some marginal colleague hostility but cited support and endorsement from the dean, the departments of pediatrics and medicine, the hospital administration, and the medical community in general. In this institution one department proposed that family medicine was the most promising route to take in providing primary care, but the support of the dean and the departments of medicine and pediatrics for nonfamily practice primary care residency tracks tended to defuse the opposition.

Some problems that programs first encountered continued in an equal or diminished degree. These were funding, obtaining qualified faculty and staff (which might be related to funding) and lack of administrative support. As programs developed and gained visibility, colleague hostility and the negative perception of primary care decreased.

The data on problems reveal what the program directors identify as the major obstacles to program development, program continuity, and program institutionalization: to program development it was lack of funds, faculty, and absence of support from the departments of medicine and pediatrics; to institutionalization, again, it was lack of funds, lack of faculty, and absence of departmental support. Lack of qualified faculty and lack of funds were important deterrents to program development, continuity, and institutionalization. Programs could develop without support from the departments of pediatrics and medicine, but continuity and institutionalization were in serious jeopardy without that support. It is not known whether the lack of qualified faculty was related to lack of funds because it takes money to compete for qualified faculty, or whether it was just the absence of an adequate pool of qualified individuals with an orientation toward primary care. A partial or possible answer is presented in the section on staffing in this chapter.

Similarities and disimilarities exist between the Federally and Foundation-supported programs. Again, as is evident in Table 1, colleague hostility was the problem most often faced by the Federal programs, whereas it was the lesser problem in Foundation-supported programs. Also, the Federal programs tended to have greater difficulty in obtaining residents.

An additional analysis of why the Federal programs had more difficulty recruiting residents revealed the following: comparing the Federally and Foundation-supported programs on the Cole-Lipton Index, a measure of perceived quality of medical schools described in more detail in the section on Residents in this chapter, revealed that three Federal residencies that had difficulty recruiting residents tended to be lower on the Cole-Lipton Index, that is, are perceived lower in the quality of undergraduate medical education offered. Furthermore, one Federal program that had recruitment difficulties attributed them to the "remote" location of its program. Obviously "poor" program image and "poor" geographic location compound the problems of recruitment.

The problems of colleague hostility and negative perception of primary care appear to be correlated. When one exists, it is most likely that the other will be present. This was evident in both the Federal and Foundation data. Similarly, as one of these problems decreased in intensity, the other tended to decrease too.

All of the programs had about equal difficulty in obtaining space and in obtaining faculty. There were no marked differences among the institutions that cited space as a problem, despite the well known fact that lack of space is endemic to university medical centers. The schools that were ranked high on the Cole-Lipton Index tended to have fewer problems recruiting faculty, a generally accepted fact of life in medical education circles.

A general review of all of the programs revealed a pattern that is probably common to all institutions initiating a major programatic change. Initial opposition to change or new programs tends to be based on philosophic grounds. Deans and vice presidents for medical affairs who have a more commanding perspective invariably identified philosophic differences of opinion as the root of the problems. Such fundamental questions as "What do we mean by primary care?," "Are we not already providing it in medicine (pediatrics)?," "Could not family medicine serve that role better?," and "Where will we get the new and additional patients?" immediately were pointedly asked when a primary track option was proposed. Perhaps the philosophic differences were a shroud for protecting "turf," that is, the limited supply of patients, residents, space, and funds. Nevertheless, there was universal agreement that these philosophic differences had to be discussed and resolved in order to deal with specific problems of sharing or redistributing funds, patients, and the like. To paraphrase one dean ". . .once primary care established a good track record, it was accepted, perhaps grudgingly, but it is here to stay."

It is evident from the data that the primary care residencies encountered problems in getting started and that the intensity of the problems varied. The manner in which the philosophic differences were handled, how the program was organized, and the degree and sincerity of support from the dean and the departments of pediatrics and medicine to primary care considerably lessened the problems. Otherwise, programs courted and, indeed, did invite failure.

Goals and Objectives

The importance of the presence of goals and objectives to sound program development has become an accepted axiom of medical educators and program planners. The Essentials of Residency Training Programs emphasizes their importance as do numerous other documents and guidelines. Usually, goals are defined as "general aspirations," whereas objectives are viewed as outcomes, behaviors, or end points that should be evident upon completion of a training (educational) program. Because of the importance of goals and objectives, this study therefore identified the kind of goals and objectives formally available and examined the extent to which, these goals and objectives guided the development of primary care residencies.

Surprisingly, three of the Federally supported programs did not develop a set of specific training objectives, and one of the three had no intention of doing so. One of the three institutions saw the need for goals and intended to formulate a list of goals in the future. Another justified the absence of objectives by stating that they were implicit in a variety of formal documents such as in the Federal contract and other grant proposals, but the institution never formally stated their objectives. An examination of that institution's contract does reveal such broad phrases as "experience in primary care" and "develop the health team." In the final report to the Bureau of Health Manpower, the objectives were developed *ex post facto*, but still were rather broad and covered a wide range of topics such as management skills, working as part of a health team, supervisory skills, and the background to qualify for subspecialty board certification; behavioral objectives were still missing.

Another program blamed the absence of training objectives on its newness as a medical school department and the lack of resources to complete the task. It had definite plans to undertake this assignment in the future and anticipated that completing the task would be the responsibility of the program director in conjunction with the departments of medicine and community medicine. Here it was the intent to use the objectives to refine the design of the curriculum, to evaluate the residents who completed their training, and to use them to "obtain colleague support."

The institution that saw no need for objectives remained adamant in its position. The dean of this medical school indicated that the major clinical departments reluctantly supported the primary care residency, whereas the volunteer clinical faculty were by and large opposed to it. When asked to what he attributed the reluctant support and strong opposition, the dean replied, ". . . it was basically philosophical. They did not know what primary care involved. How it differed from general medicine." Whether these philosophic differences could have been resolved or reduced if a set of well defined objectives had been available is both speculative and intriguing.

The program director, with token participation of the departments of medicine and pediatrics, developed the objectives in another institution. This program also made the unusual use of a professional staff member whose credentials were in curriculum development. In reviewing the grant application of this program, the influence of the curriculum developer is evident. The objectives were fairly well defined and an evaluation strategy under each objective was developed, listing specific behavioral outcomes. In spite of the well defined objectives, this institution encountered the most problems in becoming operational. Data from the site visits, especially the interview with the dean, shed considerable light. His response was that although it was a good proposal, there was ". . . insufficient input from other departments which would ultimately be involved. Furthermore, the application was done on an ad hoc basis." Obviously a basic tenet of curriculum development was neglected here: successful curriculum planning requires the involvement of as many of the people who will participate in that curriculum as possible!

A program that encountered few initial problems involved a sizable number of individuals and departments in developing its objectives. Participating in their formulation were the director, the departments of community medicine, medicine, and pediatrics, program staff members, a resident representative, and a member of the school's curriculum committee. The objectives were spelled out in some detail and were used to evaluate the outcomes of the program, to assess resident performance, to guide in the modification of the curriculum, and to recruit residents and faculty.

At another institution, staff members, the director, and the departments of medicine and pediatrics were instrumental in developing the objectives of the program. This program also encountered few difficulties initially and eventually had considerable enthusiastic support. At this institution the objectives served as the basis of the overall evaluation.

In the Basic Program Questionnaire (Appendix B,) Question 21 listed some general goals of primary care residency training and asked the program directors to rank the objectives and to indicate if they have been met, are being met, or have not been met. All but one of the programs ranked the goals of medicine and pediatrics tracks in the same order. All six ranked "the training of primary care physicians with competence in internal medicine/pediatrics, plus additional competence in psychiatry, obstetrics/gynecology, and other specialties" as first in importance. The only other goal where there was some semblance of agreement on rank order was to "train residents in the utilization of allied health personnel," although one program did not see that as a goal at all. Similarly, one program did not consider providing medical students with experiences in primary care as a goal. Only two schools ranked that goal second in importance, whereas the other three saw it as less important.

Developing the health team as a means of providing primary medical care was seen as a goal of almost similar value to the "utilization of allied health personnel." Filling a patient care need was ranked second, third, fourth, and twice sixth by five schools one did not consider it a goal at all.

In the one situation in which separate ranks were assigned to the medicine and pediatrics tracks, the following differences were noted: the goal of providing medical students with experiences in primary medical care was ranked second in medicine and sixth in pediatrics and the goal to expand the training program in primary care was ranked fifth in medicine and second in pediatrics.

Only one institution identified goals for its program in addition to those listed in Question 21. They were to train physicians for practice in underserved areas and to train physicians to be "change agents" of the current health care system. These were goals of an institution long dedicated to reform in health care and both goals were being met.

The extent to which the goals have been, are being, or have not been met, varied considerably. The number one priority of all the programs, which was to train primary care physicians, had been or was in the process of being met by all. Only one institution had met or was in the process of meeting all its goals, whereas all of the others except one had only one goal that had not been satisfied. The one exception was the program that encountered the most problems initially. This program had met only the goals that ranked second and sixth was in the process of meeting its number one priority - training primary care physicians - and had not met the goals it ranked third, fourth, and fifth, which were training residents in the utilization of allied health personnel, providing medical students with primary care experiences, and developing the health team, respectively. Only one program had not met its second ranked goal and that was only for its pediatrics track.

In summary, all but one program had met their first ranked goal and all but one had met their second ranked goal.

There were remarkable similarities in the goals of the programs sponsored by the Federal government and the Foundation as seen in Table 2. All but one of the Foundation programs placed training of primary care physicians in the first rank. The one exception was an institution that claimed that filling a patient care need was first. This single incident of a rank difference can be attributed to the possibility that because the Foundation guidelines for support of programs were somewhat more flexible than those of the Federal government, greater liberties were taken in defining goals.

The goals to train residents in the utilization of allied health personnel and to develop the health team were also given almost identical rankings in all of the programs. The same kinds of variations in rankings for all the remaining goals appeared in both Federally and Foundation-supported programs. The greatest difference between the two groups of residencies occurred in those supported by the Foundation where four residencies listed additional goals and only one Federal

TABLE 2

SUMMARY RANK ORDER OF OBJECTIVES OF PRIMARY CARE RESIDENCIES

	PMC Medicine		PMC Pediatrics	
Objectives	Federal	Foundation	Federal	Foundation
Training primary care physicians	1	1	1	1
Utilizing allied health personnel	2	2	2	2
Developing the health team	3	3	3	3
Providing medical students with primary care experiences	4	4	5	4
Fill a patient care need	5	5	4	5

one did. The additional goals listed by the four Foundation programs included "to deal with conceptual issues of importance to practitioners, such as health planning, cost containment, and practice management;" "to develop and utilize practical practice data;" "to develop and to implement practical research capabilities;" and "to train residents and physicians to care for two communities." The one Federal program listed the following goals "to train physicians for practice in underserved areas" and "to train physicians to be change agents in current health care systems."

The explanation for why the Federal residencies did not submit more additional goals perhaps again lies in the differences between the Federal and the Foundation guidelines for submission of proposals. The Foundation stipulations for support were more flexible than those of the Federal government. Indeed, in the case of the Federal programs, which were supported by a contract, the nature of the contract was such that the scope of work was rather strictly defined allowing little deviation. The Foundation-supported programs had more room to maneuver than the Federal programs and therefore tended not to confine themselves to narrowly defined activities.

The Federally and Foundation-supported programs were equally successful in meeting their first ranked goal to train primary care physicians. On the other hand, the Federal programs had greater difficulty meeting their lower-ranked goals. Although it is pure speculation, it must be remembered that in the section on Problems it was indicated that the Federal programs encountered considerably more colleague hostility and had greater difficulty recruiting residents than the Foundation programs. It is conceivable that these two major problems could easily have inhibited more rapid fulfillment of the Federal programs' goals.

Another difference is that three of the Federal programs did not develop specific training objectives, whereas all of the Foundation programs did. Once more it should be recalled that the Federal programs encountered more problems than those of the Foundation. Again, this might be attributed to the lack of specific objectives because some of the philosophic differences of opinion might have been resolved if colleagues had a better understanding of what was involved in a primary care residency training.

So, while there are similarities in the goals and objectives of the Federal and Foundation programs, there are also some important differences. Examining the goals and objectives of the programs in totality reveals that all seem to agree that if primary care services are to improve, the number of primary care physicians will have to increase. Merely enlarging numbers, however, is not enough. Practitioners will also have to increase their competence in pediatrics/internal medicine, psychiatry, obstetrics/gynecology, and other specialties. This seems clear from a review of the goals of all of the programs.

It is also evident from the programs goals that primary care is a broader concept than just services provided by physicians. That all of the programs, regardless of their base of support, proposed and pursued the goals of developing the health team and training residents in the use of that health team indicates a widespread belief that primary care extends beyond the more narrowly defined concepts of straight internal medicine and straight pediatrics. This broader concept, as formulated by the primary care programs' goals, will be evident on more than one occasion as additional findings in this study are presented in the following sections of this chapter.

In spite of almost twenty years of effort on the part of leading medical educators and program planners in emphasizing the importance of well defined behavioral or training objectives, primary care residency programs have been slow in accepting that message. Because of importance of these objectives, this study examined in detail their formulation and use, while at the same time attempting to understand the reasons why they were not considered important. Perhaps the response of one program director summarized it best: "We were not really aware of their urgency and importance to the same extent as others seem to be." Although the "success" or "failure" of a program cannot be correlated with the presence or absence of specific training objectives, it is likely that programs will be better understood and better evaluated when the objectives are present, clearly formulated, and periodically evaluated.

Clinical Affiliations

The types of clinical settings in which residents obtain their primary care skills are described in this section. The information for this section was obtained from the Affiliations Questionnaires (Appendix C) which program directors filled out. A separate questionnaire for each affiliation was completed. The patient care and educational activities that occur in these affiliations are described in a subsequent section of this chapter.

Table 3 summarizes the types of clinical settings used as part of the residency training and the percentages of time devoted to inpatient and outpatient activities. The clinical settings do vary somewhat from program to program. General hospitals - private and public - provide most of the settings. Programs B, C, D, and F made no use of neighborhood clinics, whereas programs A and E did. Of the latter, E made the most extensive use with almost one-half of the total program taking place in two different clinics. Program F had no university hospital so it relied on a number of private community hospitals through which medical students and residents rotated. No outpatient learning activities were provided in these private hospitals and that type of experience was obtained in a university-operated ambulatory care center. Because the ambulatory care center was the only location where outpatient experiences were provided, the university

TABLE 3

PERCENT OF TIME IN EACH FEDERAL PROGRAM DEVOTED TO PRIMARY CARE TRAINING IN SEVENTEEN AFFILIATIONS WITH PERCENT OF TIME SPENT IN INPATIENT AND OUTPATIENT ACTIVITIES

Program	Setting	% of Total Program in This Setting	% of Time Spent With Inpatients	% of Time Spent With Outpatients
A	General Hospital	20	100	
A	Specialty Hospital	11	70	30
A	Four Neighborhood Clinics	8		100
A	Hospital Specialty Clinic	5	10	90
A	Specialty Hospital	56	80	20
B	Group Practice	55	34(M)	66(M) 100(P)
B	General Hospital	40	90	10
B	Specialty Hospital	5		100
C	University Hospital	100	60(M) 46(P)	40(M) 54(P)
D	University Hospital	100	49(M) 47(P)	51(M) 53(P)
E	Two Neighborhood Clinics	46		100
E	University Hospital	54	60	40
F	Private General Hospital	28	75	25
F	Private General Hospital	18	100	
F	Private General Hospital	24	100	
F	Ambulatory Care Center	30		100

M = Medicine
P = Pediatrics

attempted to have the offices of a number of private practitioners available for assignment to residents. In late 1978, the university had at least ten private practitioners participating in the program and was actively recruiting more. Program E was the only other one that made use of the offices of private practitioners with twelve offices available for residents. Programs A and E appeared to have a good balance of affiliations - neighborhood clinics and hospitals - that provided outpatient and inpatient services.

When general hospitals were used as training sites, the majority of the experience was in inpatient activities. The exception was Program D, which used only its university hospital but divided the residents' outpatient and inpatient time almost on a 50/50 basis.

When a program has to depend on private community hospitals, it is often assumed that it has little influence or control of the hospitals. However, the case of Program F, the university had control in all three private hospitals in terms of the types of clinical experiences to which residents were exposed, the number of patients seen, the time spent in the outpatient and inpatient services and the number of residents in the residency program, and also had input in the appointment of hospital staff. All of the other programs that made use of private community or specialty hospitals had a similar influence on the operation of the hospitals. The only exception was Program B where the university had no voice in the general hospital's staff appointments or in the number of patients seen by the residents. In the specialty hospital it had no voice whatsoever, and residents were accepted through the generosity of the hospital, but only five percent of the total training of the residents took place at this specialty hospital.

In one case a program reported information on clinical specialties and the amount of time spent in inpatient and outpatient activities in the pediatrics and internal medicine tracks, reported in Table 3.

The B program was the only one that reported using a group practice as one of its affiliated training sites. B incorporated university teaching and research prepaid group practice with 19,000 enrollees in a separate ambulatory facility. No residencies other than those in primary care were associated with this group practice.

As might be expected, the number of other residencies in each of the affiliated sites varied considerably. The university and general hospitals had the largest number of other programs, whereas the private general hospitals, averaging about 300 beds, each had approximately four other residencies. The neighborhood health clinics in Program E did not have any other residents except those in the primary care tracks. On the other hand, the four neighborhood clinics used in Program A were part of a county-wide system of eight clinics with a total annual visit of 120,000 patients. In the four clinics used for training, eight other residents rotated through them and they represented three additional residencies.

During the course of the training at one time or another residents had the opportunity to work with nurse practitioners in all of the programs but not in all of the affiliated clinical institutions. In contrast, physician assistants were present in only two programs with two affiliations each. The nurse practitioners, and especially the physician assistants, were absent from the private hospitals. In these programs they were used more extensively in university hospitals and in neighborhood clinics.

Slight differences existed in the affiliations used by the Federal and Foundation programs, but the similarities were more pronounced. Both types of programs tended to depend on university-operated hospitals or county hospitals staffed by the university where the bulk of the experience was on the inpatient service. The exception was the one Federal program that used only private community hospitals for inpatient experiences. Similarly almost every program had some control over the operation of the affiliated institutions, if not in the actual management of the affiliations, then at least in the educational experiences to which the residents were exposed.

Physicians assistants and nurse practitioners were used about as often in both groups of programs, but in varying degrees. The Foundation residents had more experiences with physician assistants, especially in those programs that had a rural component to the training.

Although the differences between the Federal and Foundation programs might appear small, they should be mentioned. The Federal programs had no rural experiences or rural health projects but they made greater use of neighborhood health clinics and were thus more urban oriented. Some of the Foundation residencies developed, or were in the process of developing, "teaching affiliations" with private health maintenance organizations (HMOs). This was not evident in the Federal residencies. Two other differences were observed. In a number of Foundation programs, residents were allowed elective rotations in clinical settings that were not affiliated with the program. The residents had to make their own arrangements for these clinical rotations. Another difference was that the Federally supported programs were active and, indeed, more successful in making use of the offices of private practitioners for some elective experiences.

All fifteen residency programs (both Federal and Foundation) revealed a consistent pattern. In residency training the tendency in general is to have the programs located in university hospitals or university staffed county general hospitals. This continues to be the case in many primary care programs, but because primary care places greater emphasis on ambulatory care, and university and county hospitals lean more toward inpatient services, efforts were made to identify extramural outpatient facilities for training. However, this occurred only when the ambulatory clinics of university hospitals did not provide enough outpatient care opportunities. There continues to be a reluctance to "move off campus." Even in the case of the program that had no university or county hospital with suitable outpatient facilities, that university created and located its own ambulatory care center on campus.

As new residency options are created and compete for a limited population pool, cautious efforts are being made to provide residents with appropriate primary care activities beyond the confines of university medical centers. "Teaching" affiliations with HMOs, private group practices, public health departments and solo private practitioners are being tested not as alternate sites but as complementary ones. Extension of the university into faculty private practice clinics and HMOs and the development of rural health projects are also being developed cautiously, not only as training sites, but also as a basis of faculty financial support.

The primary care residencies that provided data for this study have begun to identify and to utilize clinical affiliations that will satisfy the goals and objectives of primary care.

Staffing

The quality of a residency program is a reflection of many factors including administrative arrangements, program leadership, attitudes of faculty and related staff members toward the primary care teaching staff, and virtually all aspects of medical education. A number of these factors are examined in this section on staffing.

In two cases the programs were run by the department of medicine. One of these originally was a joint medicine and pediatrics venture, but gradually pediatrics reduced its participation as a separate track and medicine assumed sole responsibility. The other program, operated by a department of medicine, had a unique administrative arrangement: the primary care tracks in both medicine and pediatrics each had a separate program director who was responsible for the particular departmental track, but with the department of medicine maintaining budgetary control over the entire program.

In another institution primary care training was a cooperative effort between pediatrics and medicine with the pediatrics department administratively responsible for coordinating the two residencies. In one other institution a separate administrative unit existed for the operation of all residency programs. The head of this unit was the director of residency programs who reported directly to the hospital director.

Further administrative variation was present in one program that was under the control of a division whose main interest was to conduct health care research, it was an extradepartmental teaching and research division of the university. The primary care program, however, was integrated as part of the overall residency programs of the departments of medicine and pediatrics. Finally, one program was a joint venture of the departments of community medicine, medicine, and pediatrics with the department of community medicine assuming overall administrative responsibility.

The program directors in three programs hold the rank of full professor, whereas in three other programs the directors were at the assistant professor level. The characteristics of the institutions with full professor directors did not differ from those of the institutions with assistant professor directors. However, the program that slowly experienced the erosion of pediatrics was headed by an assistant professor, as was the one where the grant application was submitted on an *ad hoc* basis (described below).

Four programs did not have co-directors, whereas the two that did were directed by full professors. One program had an elaborate administrative structure with a project director, an assistant project director, a coordinator for internal medicine, and a coordinator for pediatrics. This was Program A, which made extensive use of a large number of clinical affiliations.

In keeping with the departments that had responsibility for the programs, the directors' and co-directors' faculty appointments and specialty training followed the same pattern: two had specialty board certification in internal medicine, were administratively in that department, and had no associate directors; another program had a director who was board certified in internal medicine with an appointment in medicine and an associate director with specialty training and an appointment in pediatrics; another director's appointment was in the department of pediatrics with specialty certification in that discipline, whereas the co-director had board certification in internal medicine with an appointment in medicine; finally, two directors, who had no co-directors, were pediatricians with an appointment in pediatrics and community medicine, respectively.

As was the case with almost all faculty salaries in university medical centers, salaries in the Federal programs came from a variety of sources. One program director derived his salary from the university, private practice, government grants, and three private hospitals; another relied on Federal grants and hospital sources; two depended on the university, foundations, and several hospitals for support; while two others obtained support from the university and either the county hospital or the Federal grant. The two co-directors, were also supported from a variety of sources: the university, group practice, foundations, and Federal grants in one case, and the university and several hospitals in the other.

Because a high priority goal in almost all of the programs was either to develop or to utilize the health team in primary care, description of the health team staffing patterns follows. Table 4 summarizes the allied health personnel utilized in the six Federal and eight Foundation programs, one Foundation program

TABLE 4

NUMBER OF FULL- AND PART-TIME ALLIED HEALTH PERSONNEL COMPRISING THE PROFESSIONAL STAFF OF FOURTEEN PRIMARY CARE PROGRAMS*

	Number			
	Full-time		Part-time	
Personnel	Federal	Foundation	Federal	Foundation
Clinical Nurse	6	24	-	4
Clinical Psychologist	-	1	-	1
Dental Hygienist	5	-	-	1
Nurse Midwife	-	-	-	-
Nurse Practitioner	16	20	3	4
Nutritionist	1	3	-	1
Physician Assistant	4	12	-	-
Public Health Nurse	-	1	1	4
Social Worker	4	5	3	8
Dentist	8	-	-	-
Other	10	15	1	-

*Data from one Foundation program were not available.

did not respond to this questionnaire item. As can be seen, nurse practitioners and nurse clinicians made up the bulk of allied health personnel and were present in all of the Federal programs while four physician assistants were distributed between two programs. The fact that the Federal programs were urban oriented perhaps explains the infrequent use of physician assistants, this will be further examined later.

Review of the individual staffing patterns of some of the programs revealed considerable differences. A program with a strong commitment to an urban community had eight full-time dentists, five full-time dental hygienists, twelve nurse practitioners, thirty-two home health workers, and twenty-four medical assistants and had without a doubt, the largest staff of all the Federal programs.

The two programs with the four physician assistants surprisingly also made use of nurse practitioners. One also had six clinical nurses and three social workers, whereas the other had a nutritionist and a social worker. All the other programs used only nurse practitioners and a part-time social worker. In only one case was a part-time public health nurse part of the health team. The "other" personnel used included either on a full- or part-time basis the following: a clinical pharmacist, a social scientist, psychiatrists, and, as indicated in one program, dentists, family health workers, and medical assistants. Site visit schedules did not permit observations of how the health services were provided in these primary care residencies. Consequently, data on referral patterns were not available to determine how staff members were used and why other allied health workers were not part of the primary care team. For example, the absence of nutritionists raises the question of whether problems of nutrition were handled by nurse practitioners, physician assistants, home health workers or someone else on the health team.

With primary care generally accepted as being different from straight medicine and straight pediatrics - the Four C's - it is also generally held that the individuals presenting that service are also different. To obtain data on what, if any, differences existed between primary care teaching staff and their colleagues in non-primary care disciplines, eighty-nine individuals from various disciplines and academic ranks were interviewed. Specifically, the interviews were directed at determining if individuals saw any differences in relation to clinical orientation, psychosocial orientation, interest in clinical research, and basic knowledge in the science of medicine between the primary care and non-primary care teaching staffs. The exact wording of the questions is provided in the Interview Schedule in Appendix E. Appendix J presents a detailed description of the sample interviewed.

Clinical Orientation of the Primary Care Teaching Staff.

Of the 89 respondents, 85 provided useful information, as reported in Table 5. That the majority of respondents (85%) perceived the primary care staff as equally or more clinically skilled than their counterparts in straight internal medicine and pediatrics might well be a reason why the goals and objectives of primary care place such heavy emphasis on the development of clinical skills. That only 5 percent perceived the staff as less skilled is in a way more dramatic because it represents such a small, if not insignificant, number of associates who hold that viewpoint.

Psychosocial Aspects of the Primary Care Teaching Staff.

If primary care is to embody any one particular or unique feature or distinguishing component from all the other clinical disciplines, it is generally conceded that it is more psychosocially oriented in dealing with patients and their illnesses. To assess whether this was so, the Interview Schedule (Appendix E) specifically addressed itself to that issue. Individuals interviewed were asked to compare the primary care teaching staff with the staff in the straight pediatrics and straight medicine tracks. As drawn in Table 5, in the Federal programs no one

TABLE 5

HOW PRIMARY CARE TEACHING STAFF ARE PERCEIVED ON FOUR PROFESSIONAL QUALITIES AS CONTRASTED TO TEACHING STAFF IN NON-PRIMARY CARE RESIDENCIES*

	Foundation Programs					Federal Programs					Total**				
Professional Qualities	Less	Equal	More	Can't Say	N of Resps	Less	Equal	More	Can't Say	N of Resps	Less	Equal	More	Can't Say	N of Resps
Clinical skills	4%	54%	36%	7%	153	5%	49%	36%	10%	83	5%	51%	36%	9%	212
Psychosocial orientation	3	22	69	6	157	-	27	62	11	85	2	23	66	9	216
Interest in clinical research	24	53	12	11	154	31	46	6	17	83	26	50	11	13	211
Knowledgeable in the science of medicine	20	60	4	15	144	25	62	3	11	81	21	60	4	16	199

* See Appendix J for description of interviewees.

** Adjusted so that the respondents at Boston City Hospital are counted only once.

NB: The specific question asked was: What differences do you see in the teaching staff of the primary medical care residency program as contrasted to those in ("straight") residencies in the following four areas? (E.g., "Is the primary medical care teaching staff LESS/EQUALLY/MORE clinically oriented?")

saw the primary care staff as less psychosocially oriented, whereas 62 percent saw them as decidedly more so. Clearly, 89 percent of the respondents viewed the primary care teaching staff as being either equally or more psychosocially oriented than their counterparts teaching in the straight tracks.

Interest in Clinical Research of the Primary Care Teaching Staff.

It would be difficult to expect that a teaching staff with a strong psychosocial orientation and strong clinical skills would also have strong interest in clinical research. Table 5 indicates that colleagues did see the primary care staff as somewhat (31 percent) less interested in clinical research, but the majority (52 percent) believed that they were equally or more interested than their straight track counterparts.

Knowledge in the Science of Medicine of the Primary Teaching Staff.

If one were to hypothesize an area in which primary care staff would be perceived negatively, it would be that of basic knowledge in the science of medicine. The information in Table 5 indicates that this was not necessarily the case; only 25 percent of those interviewed perceived primary care teaching staff as less knowledgeable than their straight track counterparts.

Staffing differences and similarities continue to exist in the Federally and Foundation-supported programs. In the Federal programs the department responsible for the operation of the programs differed among programs, whereas in the Foundation programs there was a tendency for the department of medicine to be responsible. Because all of the Federal programs had both a pediatrics and medicine primary care track whereas all the Foundation programs did not, it is reasonable to expect the responsibility to be shared between departments or assigned to either pediatrics or medicine.

Half of the directors of both the Federal and Foundation programs were full professors and half of the directors were assistant professors. In almost every case where a full professor was director, that individual prepared and submitted the application to the Federal agency or to the Foundation. In the case of the assistant professors, the assistant professor was requested or appointed to serve as the program director.

Surprisingly, the Foundation programs all had co-directors, whereas only two Federal programs had co-directors. The absence of more co-directors in the Federal residencies was especially interesting because all programs originally had tracks in pediatrics and medicine, which was not the case in those supported by the Foundation. In all cases, the co-directors and directors were either board certified in medicine or pediatrics or in one of these specialties plus another, such as community medicine.

In examining the data on the Foundation residencies, another difference was noted. The directors and co-directors of the Foundation programs relied less on Federal grants for total salary support and placed greater reliance on other sources. Looked at another way, the directors and co-directors of the Federal programs derived a greater portion of their faculty salary from the contract than the directors and co-directors of the Foundation programs did from the Foundation grant. Federal and Foundation guidelines on the use of contract and grant funds for faculty support might have contributed to the difference. As a case in point, one Federal program depended almost totally on Federal funds to support the staff, whereas the Foundation programs did not depend on Foundation funds for staff support to the same extent.

Allied health staffing patterns were similar in both groups of programs as is evident in Table 4. Minor differences were noted, but it becomes understandable on examination of the institutions where these differences occurred. Some use of dentists, dental hygienists, and home health workers was made but only by the one institution that was committed to an inner city and its medically underserved population. The greater use of physician assistants in the Foundation programs was largely due to one institution that had a strong commitment to rural medical care where it was often difficult to attract qualified physicians. Many of the physician assistants in this program were at clinical sites close to their homes and to their place of birth. Of all the fifteen programs studied, these two institutions provided the most extensive health care programs to their surrounding communities and used the greatest variety of allied health personnel.

Lack of significant differences in how the primary care teaching staffs were perceived should not be startling. Both the Federally and Foundation-supported residencies differed only slightly in their goals and thus probably attracted the same kinds of staff. What is surprising about the data in Table 5 is the virtual agreement between individuals in the two groups of programs in how they perceived their primary care colleagues.

Collectively the programs were little different than what they were when separated according to Federal or Foundation support. The academic rank of the program director might have had some subtle influence if some critical matters involving the departments of pediatrics and medicine were involved. In the case in which one department significantly withdrew its participation from the program, it was difficult to determine whether it was due to basic philosophic differences of opinion or lack of more forceful leadership on the part of the program director, who was an assistant professor.

Not having co-directors in all of the programs might have created some problems, but it is difficult to say if this was really the case. Furthermore, it might have been helpful if a director had (1) the respect of colleagues in both the departments of medicine and pediatrics, (2) specialty training in both disciplines, (3) had an academic appointment in both departments, or (4) all three.

It was evident that primary care residency programs were making a genuine effort to develop the use of a variety of allied health personnel as part of the health team. Table 4 clearly indicates that while similarities in the use of allied health personnel were evident, different configurations in the composition of the health team were being tested. The extensive use of nurse practitioners and/or physician assistants was proof of the value of these two types of health professionals in the provision of primary care.

Finally, the overwhelming impression that members of the primary care teaching staff were equally or more clinically skilled and psychosocially oriented than colleagues in straight internal medicine and pediatrics should have had some influence on the residents trained in the programs. This is considered in greater detail in the next section, which discusses the residents. On the other hand, if there were no differences between the teaching staff of primary care residencies and of the staff in straight medicine and pediatrics, what would be the justification for separate tracks, or primary care for that matter?

RESIDENTS

This section of the chapter is devoted to a comprehensive study of the residents in both the Foundation and Federal programs, and combined. In addition, comparisons between the primary care residents and the conventional residents in medicine and pediatrics in the same institutions are made.

Enrollment in Federally Sponsored Primary Medical Care Training Programs - 1977-1978

Enrollment figures for physicians being trained in primary care programs in internal medicine or pediatrics during the 1977-78 academic year are presented in

Table 6. These figures were obtained from the program directors during the 1977-78 year, with the exception of the program at Boston University. The Boston program was also a part of the study of primary care training programs sponsored by the Foundation, and the data for the Boston program were obtained during the 1976-77 academic year. For purposes of comparison, the enrollment statistics for Boston have been "displaced" or advanced one year to give a complete picture of the situation during the 1977-78 academic year for all Federally sponsored programs. Because the program at Boston is ongoing, the actual enrollment for 1977-78 will differ according to the net gain of residents newly admitted for that year over the number of residents who withdrew or completed their residency training.

The number of residents enrolled in primary care training programs under Federal sponsorship was slightly greater than 92. The exact number was not easily obtained because one program director had a policy of asking residents in the program whether or not they wanted to be included in the study. For that program, only the names of residents who agreed to participate were supplied, and, curiously, the sum of their names must be considered to be the number of those enrolled; the exact number was considered "confidential." At one other institution, the program was dissolved early and the residents transferred to other residency programs; these residents have been included for tally purposes. In addition, at any given time there was a small but unknown number of transient residents who transferred in or out of training programs for a variety of reasons.

Much of the information on residents in the primary care training programs in this study was based on this sample of 92. Completed questionnaires were obtained from 87 of the residents surveyed. Minimal information (sex, race, age, schools attended, and the like) was obtained either unobtrusively or through discrete inquiry for the nonrespondents. Thus, the information reported herein was

TABLE 6

RESIDENTS IN PRIMARY CARE TRAINING PROGRAMS
SPONSORED BY
THE FEDERAL GOVERNMENT
1977-78

Program	Internal Medicine					Pediatrics					Total Enrolled	Number of Responses
	PG1	PG2	PG3	PG4	GRADS	PG1	PG2	PG3	PG4	GRADS		
Baylor*	-	4	3	-	-	-	2	2	-	-	11	11
Boston*	-	6	4	-	3	-	6	4	-	3	26	26
Michigan State U.	1	1	2	-	-	-	-	-	-	-	4	4
Montefiore***	1	10	6	-	-	2	3	4	2	-	28	28
Pittsburgh	4	3	3	-	-	-	2	1	-	-	13	13
Stanford	2	-	-	-	-	2	-	-	-	-	4	4
Washington U. St. Louis	-	-	6	-	-	-	-	-	-	-	6	6
Total	8	24	24	-	3	4	13	11	2	3	92	92**

* Distribution by PG year displaced from 1976-77 to 1977-78 to make comparable to other lists of Federal primary care residents.

** Includes five returned questionnaire forms which have only minimal information.

*** The program at Montefiore is called the Residency Program in Social Medicine.

NB: Due to the confidentiality issue, there is some doubt about the accuracy of the PG levels for some residents reported here. The total number of 92 is low because one program has withheld information for some residents.

based on information from approximately 95 to 100 percent of the enrolled residents in Federally sponsored programs. By way of contrast, the information reported for the residents in Foundation-sponsored programs was based on information received from approximately 80 to 96 percent of the residents enrolled.

Information was obtained from the residents with the Resident Questionnaire, a copy of which is included in Appendix A. A questionnaire was mailed to each resident and when not returned within approximately two months, a follow-up questionnaire was sent. Returns were very good both in the sense that about 95 percent of the residents were heard from and in the sense that the questionnaires were generally complete. The latter is important because it indicates that the respondents took the trouble to complete what is a cumbersome protocol, many of them giving thoughtful responses to the open-ended questions.

In this section, when contrasts are made between residents in Federal and in Foundation programs the Federal sample size is 92 and the Foundation sample size is 159 for a total of 251 residents. Enrollment in the Foundation-sponsored programs in 1976-77 is summarized in Table 7. For some analyses sub-samples of these numbers are used. For example, when the total for all residents in the two studies are reported, the residents in the Boston program (and the respondents who were interviewed - to be discussed later) are reported only once, and the net number of residents becomes 225. In addition, for some analyses it was thought appropriate to exclude the residents (or interviewees) of some programs when the inclusion of such residents would have distorted the results. When this has been done, the reasons and exceptions are indicated.

TABLE 7

RESIDENTS IN PRIMARY CARE TRAINING PROGRAMS
SPONSORED BY
THE ROBERT WOOD JOHNSON FOUNDATION
1976-77

	Internal Medicine					Pediatrics					Family Medicine					Total Enrolled
Program	PG1	PG2	PG3	PG4	GRADS	PG1	PG2	PG3	PG4	GRADS	PG1	PG2	PG3	PG4	GRADS	
Boston	6	4	3	-	-	6	4	3	-	-	-	-	-	-	-	26
Dartmouth	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	3
Florida	-	-	-	-	-	-	-	-	-	-	3	6	2	-	4	15
George Washington	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	4
Harvard	4	13	11	-	-	-	-	-	-	-	-	-	-	-	-	28
Missouri	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Rochester*	-	-	15	2	-	-	-	-	-	-	8	11	11	-	-	47
California, Los Angeles	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
California, San Francisco	4	4	4	-	5	3	3	3	-	-	-	-	-	-	-	26
Total	27	22	35	7	5	9	7	6	-	-	11	17	13	-	4	163

*The Family Medicine program at Rochester is called "Community Health and Family Medicine."

Sex and Ethnicity/Race of Primary Care Residents

Summary statistics on the sex and ethnicity or race of the residents in the Federal programs are provided in Table 8, along with comparable information for the Foundation-sponsored programs and for the fifteen programs combined. National percentages for race and sex for the medical school class of 1976 are included in Table 8 for comparison purposes. Data for the class of 1976 are used because this class is perhaps most representative of the pool of medical school graduates that entered both Federal and Foundation primary care training programs.

Females were represented in the Federal programs in a somewhat higher percentage (28.3%) than might be expected from a simple interpolation of the national percentages (16.3%) of female fourth-year medical students (N = 13,470) in the 1975-76 academic year. However, the sample was small and caution is advised in interpreting these numbers. There may be some sex bias operating in the specialty training tracks offered by these programs (e.g., in pediatrics). In the Foundation-sponsored programs, 20.1 percent of the residents were female. For the Federal and Foundation programs combined, 20.9 percent of the residents were female. Table 9 contrasts program enrollment by sex. There was clearly no difference in the sex ratio of residents in Foundation and Federally sponsored training programs.

Ethnically and racially, about 10 percent fewer whites (78.3%) were enrolled as residents in the training programs than were to be found in a national population of recently graduated physicians (88.6%). The 10 percent difference was due to a higher representation of blacks, primarily black males, who represent almost one in ten residents enrolled in Federal programs. This, however, may have been an artifact of the small numbers and the particular institutions included in this study. The total number of blacks in both Foundation and Federal programs combined (6.2%) more closely approximated the national ethnic and racial percentage of graduating black medical students (5.5%). Other ethnic groups were represented in the Federal programs, and these also were primarily male. The percentage of ethnic physicians in the fifteen combined programs approximated the national distribution of graduating medical students.

A different view of the race/ethnicity distribution among residents in primary care training is shown in Table 10 where white, black, and other (collapsed categories) residents in Federal and Foundation programs are contrasted. Totals are provided (counting Boston only once) and these totals of primary care residents can be compared with the national population of physicians in a recent graduating class. The proportion of black physicians in primary care training was virtually the same as the number of black fourth-year medical students enrolled in 1975-76. There was a smaller percentage of white physicians in primary care training and a larger percentage of "other" physicians. The higher proportion of non-black non-white residents (i.e, "other" ethnic or racial groups) can be accounted for by the foreign medical school graduates (FMGs) in these training programs. Of the seven FMGs enrolled in the Federal and Foundation programs, five were nationals from countries often classified racially as "other" (Mexico, Peru, Argentina, India, and Korea), that is, as being other than white or black in a racial or ethnicity census.

Age of Primary Care Residents

The age distributions of residents in Federal, Foundation, and combined programs are presented in Table 11. For the Federal programs almost nine of every ten residents were 30 years of age or younger; the ages ranged from 25 to 36 years; the mean age was 28.0 years; and the median age was 27.5 years. The age distributions of residents in the Federal and Foundation programs were similar and,

TABLE 8

NUMBER AND PERCENT OF PRIMARY CARE RESIDENTS DISTRIBUTED BY ETHNICITY/RACE AND SEX

	Foundation Programs				Federal Programs				Total PMC*				National**
Ethnicity/Race	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	%	Percent
White/Caucasian	26	114	140	88.1	24	48	72	78.3	40	149	189	84.0	88.6
Black/Afro-American	1	5	6	3.8	1	8	9	9.8	1	13	14	6.2	5.5
Latino	-	2	2	1.3	-	2	2	2.2	-	2	2	.9	--
Puerto Rican (mainland)	-	-	-	-	1	1	2	2.2	1	1	2	.9	.2
Puerto Rican (commonwealth)	-	-	-	-	-	2	2	2.2	-	2	2	.9	.8
Oriental/Asian American	3	5	8	5.5	-	1	1	1.1	3	6	9	4.0	1.7
Mexican American	-	-	-	-	-	2	2	2.2	-	2	2	.9	1.0
American Indian	2	1	3	1.3	-	-	-	-	2	-	2	.9	.2
Other	-	-	-	-	-	2	2	2.2	-	3	3	1.3	2.0
Total	32	127	159	100.0%	26	66	92	100.2%	47	178	225	100.0%	100.0%
Primary care residents:	20.1%	79.9%			28.3%	71.7%			20.9%	79.1%			
Fourth-year medical students (1975-76)									16.3%	83.7%			

*Boston City Hospital counted only once.

**Source: Datagram: Medical Student Enrollment, 1975-76. Journal of Medical Education, 1976, 51, 433.

TABLE 9

ENROLLMENT BY SEX AND PROGRAM SPONSOR*

Sex	Federal	Foundation	Total PMC**
Male	66 (72%)	127 (80%)	178 (79%)
Female	26 (28%)	32 (20%)	47 (21%)
Total	92	159	225

*Chi-square = 2.17 (NS) for the 2 x 2 Federal vs. Foundation table.
**Residents at Boston City Hospital counted only once.

TABLE 10

RACE/ETHNICITY OF RESIDENTS IN PRIMARY CARE TRAINING BY PROGRAM SPONSORSHIP*

Race/Ethnicity	Federal		Foundation		Total PMC**		National Percentage
White	72	78%	140	88%	189	84%	88.6%
Black	9	10	6	4	14	6%	5.5
Other	11	12	13	8	22	10%	5.9
Total	92	100%	159	100%	225	100%	100.0%

*Chi-square = 5.05 (p = .08) for the 2 x 3 Federal vs. Foundation table.
**Residents at Boston City Hospital counted only once.

TABLE 11

NUMBER OF PRIMARY CARE RESIDENTS (1977-78) DISTRIBUTED BY AGE

Age in Years	Foundation Programs		Federal Programs*		Total**	
	Number	Percent	Number	Percent	Number	Percent
24	1	0.6	--	--	1	.5
25	6	3.8	3	3.5	9	4.2
26	15	9.6	12	14.0	24	11.1
27	21	13.5	23	26.7	38	17.6
28	37	23.7	16	18.6	47	21.8
29	33	21.0	12	14.0	40	18.5
30	16	10.3	10	11.6	22	10.2
		82.8%		88.4%		83.8%
31	8	5.1	3	3.5	11	5.1
32	6	3.8	1	1.2	7	3.2
33	5	3.2	3	3.5	8	3.7
34	4	2.6	--	--	4	1.9
35	1	0.6	2	2.3	2	.9
36	2	1.3	--	--	2	.9
37	--	--	1	1.2	--	--
45	1	0.6	--	--	1	.5
Total	156	100.0%	86	100.1%	216	100.0%

*The ages of Boston City Hospital Residents have been adjusted one year to compensate for the difference in the dates of data collection.

**Boston City Hospital residents counted only once at age of data collection.

contingent on how the residents in the Boston program were counted, approximately 84 percent of the residents in primary care medicine and pediatrics were 30 years of age or younger at the time this information was gathered.

Citizenship of Residents

Citizenship statistics for the residents in Federal, Foundation, and combined programs are summarized in Table 12. About 3 to 4 percent of the residents in programs under both sponsorships were not citizens of the United States. This number of noncitizens reflects the number of foreign medical school graduates enrolled as residents in the programs. Residents who were not citizens of the United States were not concentrated in any one program and did not exceed one per program.

Social Origins of Primary Care Residents

The Resident Questionnaire included items that asked for the occupation of the resident's father and mother. The 92 residents in the Federal programs provided the occupational titles for 75 fathers and 54 mothers. Some respondents provided unusable responses such as "housewife," "retired," and "deceased."

The occupational titles were classified according to the seven level system developed by Warner (Warner, 1960). Warner's occupational socioeconomic status scheme was designed several decades ago, but is still of use in classifying socioeconomic level according to occupation. Adjustments to Warner's classification system were made for the newer occupations, such as missile maintenance technician and computer supervisor, and allowances were made for inflation when necessary. Determination of social status is difficult under the best

TABLE 12

CITIZENSHIP BY PROGRAM SPONSOR

Citizenship	Federal		Foundation		Total*	
United States	85	97%	153	96%	213	96%
Other	3	3%	6	4%	8	4%
Total	88		159		221	

Chi-square = 0.02 (NS)

*Residents at Boston counted only once.

of circumstances even with the most accurate data. Where to place the 30,000 dollar-a-year truck driver, electrician, or computer programmer is as problematic as where to place the 12,000 dollar-a-year college professor or minister. When classification can be made according to one system or another, the cut-off points for high, middle, and low statuses are sometimes arbitrary and contingent on the unstable boundaries that separate the status groupings. The Warner system was selected because we have used it before (Rosinski, 1965; Dagenais and Rosinski, 1975) and because it seems appropriate for descriptive purposes.

Table 13 lists the classification of fathers of the primary care residents in the Federal programs according to the Warner system together with some of the actual titles given by the residents. These titles are as close to the occupational titles listed by Warner as is possible without further definition of occupation and income. About one-third of the residents reported a father's occupation that was in the top or highest category of the seven Warner categories and about one-third reported a father's occupation in the second highest level; none reported a father's occupation in the lowest of the seven levels of classfication.

From the column of percentages it can be seen that the level of father's occupation of primary care residents was markedly skewed toward the higher end of the occupational spectrum. Although no current figures are available for the distribution of occupations in the general population according to the Warner system, it is clear that the seven groups do not contain equal numbers in the general population and that Level 1 would probably contain a relatively smaller number of workers than would, for example, Level 3. That Level 1 accounts for about 37 percent of the fathers and that Levels 1 and 2 account for about 69 percent of the fathers no doubt reflects differential recruitment and selection into medical schools. Although it is generally known that medical students come from families whose average socioeconomic status is skewed toward the high end of the

TABLE 13

SOCIO-ECONOMIC STATUS ORIGINS OF RESIDENTS ACCORDING TO FATHERS' OCCUPATIONS

Sample of Actual Titles in Each Group	Warner* Rating	Foundation Programs		Federal Programs		Total PMC**	
		Number	Percent	Number	Percent	Number	Percent
Physician, dentist, CPA, attorney, theologian, engineer, judge, professor	1	55	50.0	28	37.3	73	45.3
Executive, accountant, salesman, high school teacher, manufacturer, manager, real estate broker	2	24	20.9	24	32.0	41	25.5
Librarian, grade school teacher, bookkeeper, furniture dealer	3	12	12.7	12	16.0	21	13.0
Railroad worker, sales agent, retail clerk, typesetter, bench mechanic	4	11	10.0	5	6.7	15	9.3
Gardener, barber, boiler operator, factory worker, maintenance worker	5	5	4.6	5	6.7	9	5.6
Truck driver, cab driver	6	2	1.8	1	1.3	2	1.2
Laborers, migrant workers	7	-	--	-	--	-	--
Total		109	100.0%	75	100.0%	161	99.9%

*Warner, W.L. Social Class in America. New York: Harper & Row, 1960, pp. 140-141.
**Adjusted so that Boston City Hospital Residents are counted only once.

distribution, little is known about how socioeconomic status influences specialty choice in medicine, particularly the choice to practice as a "primary care" physician. This information indicates that the residents in these programs tend to come from families whose social status is skewed toward the high end of the distribution.

Table 14 gives the distribution of residents according to social class based on father's and mother's occupations, for the 110 responding residents in the Federal programs and the 161 responding residents in the Foundation programs. Although the distribution was skewed somewhat more for the Foundation residents, in general it was not too different from that of the Federal residents. The figures for mother's occupation for both Federal and Foundation residents have a distribution analogous to the distribution of the father's occupation. Table 15 shows the statistics for the Mann-Whitney tests based on ranks for the data in Table 14. There were no statistical differences for the status of resident's father or mother between Foundation and Federal programs.

Perhaps of greater interest than a general classification of primary care residents by parental occupation is the identification of residents whose father or mother are physicians. Table 16 indicates the distribution of parents by health-related occupation. Table 17 contains data for residents in both the Federal and the Foundation programs who had a physician parent. For the residents in Federal programs, 10 of 77 reporting residents (13.0%) had one parent who was a physician. This contrasts with 18.5 percent of the Foundation-sponsored residents who had a physician parent. This difference is not significant.

If these figures were representative for all the residents in both the Federal and the Foundation programs, then the residents in training for primary care in these fifteen programs were quite representative of the nation's physicians in general. Gee (1959) reported that for the year 1956-57, in a sample of 2306

TABLE 14

SOCIO-ECONOMIC STATUS OF RESIDENTS' FATHERS AND MOTHERS BY PROGRAM FUNDING

Warner Rating*	Foundation Fathers		Federal Fathers		Foundation Mothers		Federal Mothers	
1 (High)	55	50.0%	28	37.3%	7	12.7%	9	16.7%
2	23	20.9	24	32.0	21	38.2	20	37.0
3	14	12.7	12	16.0	21	38.2	21	38.9
4	11	10.0	5	6.7	1	1.8	1	1.9
5	5	4.5	5	6.7	5	9.1	3	5.6
6	2	1.8	1	1.3	-	-	-	-
7 (Low)	-	-	-	-	-	-	-	-
Total	110		75		55		54	

*Warner, W. L. Social Class in America. New York: Harper & Row, 1960, pp. 140-141.

NB: Statistical tests were performed for differences between the Foundation-Federal rankings for father and for mother. There were no statistical differences either including Boston in both groups or excluding Boston from both groups.

TABLE 15

TESTS FOR DIFFERENCES BETWEEN FOUNDATION AND FEDERAL SPONSORED RESIDENTS' FATHERS' AND MOTHERS' SOCIOECONOMIC STATUS

	Mean* SES Rank (1)	Mean SES Rank (2)	N
Fathers' Socioeconomic Status			
Foundation Residents	89.50	2.04	110
Federal Residents	98.13	2.17	75
Test: Mann-Whitney U = -1.14 (p = .25)			
Mothers' Socioeconomic Status			
Foundation Residents	56.60	2.56	55
Federal Residents	53.37	2.43	54
Test: Mann-Whitney U = -0.57 (p = .57)			

* Mean rank (1) is computed by assigning a rank to each level so that each individual is placed on a scale of 1 to 185 using the mid-point of the range for ties. Mean rank (2) is simply the average rank for individuals placed on a scale of 1 to 7.

TABLE 16

NUMBER OF RESIDENTS IN FEDERAL PROGRAMS WITH PARENTS IN HEALTH-RELATED OCCUPATIONS

Occupation	Father	Mother	Total
Physicians	9	1	10
Other health-related occupations*	4	6	10
Non-health-related occupation	63	54	117
Total	76	61	137

*Other health-related occupations:

	Father	Mother
Nurse		4
Dentist	1	
Veterinarian	1	
Clinical psychologist		1
Psychologist		1
Social worker	1	
Health insurance manager	1	

TABLE 17

RESIDENTS WITH OR WITHOUT A PHYSICIAN AS PARENT BY PROGRAM FUNDING

	Resident has a Physician Parent		
Funding	Yes	No	Total
Federal	10 (13.0%)	67 (87.0%)	77
Foundation	22 (18.3%)	98 (81.7%)	120
Total	32	165	197

Chi-square = 0.67 (p = NS)

medical students in 28 medical schools, 15 percent had physician fathers. Fredericks and Mundy (1976) reported that about 14 percent of the class of 1962-63 at Loyola University Medical School had physician fathers. Gough and Hall (1977) reported that about 14 percent of the students in 17 classes (1951 to 1967) of the School of Medicine at the University of California, San Francisco had a physician parent. Gough and Hall further estimated that, based on a survey of the literature, "approximately 16 percent of the students in American medical schools may be expected to have fathers who are physicians." When contrasted to these reports of percentages of medical students coming from "physician families," the figure of 17 percent (29 of 172 respondents) for residents in primary care training indicates that the Federally and Foundation-sponsored primary care training programs are enrolling at least as many residents from physician families as might be expected in a random sample of American medical students.

Academic Origins of the Primary Care Residents

The seven Federal residency training programs are located in seven sponsoring institutions, each of which is affiliated with a medical school. The residents in each program are recruited from medical schools across the nation and a small number from medical schools in other countries. The medical schools in turn recruit from undergraduate colleges and universities. In this section data will be presented on the undergraduate origins of the residents, on the medical school origins of the residents and comparable contrast groups of other residents, and on the performance of the residents and of contrast groups of residents on the National Board of Medical Examiners (NBME) examinations.

Undergraduate College Selectivity

An estimate of the selectivity of the undergraduate colleges attended by the residents can be obtained by using the work of Astin (1971). Astin graded virtually all undergraduate colleges and universities in the United States according to selectivity in the admissions process based on factors such as mean school performance on the Scholastic Aptitude Test (SAT), the American College Testing (ACT) program tests, and such indexes as the number of qualifying National Merit Scholarship winners. Schools were graded on a scale from 1 (least selective) to 7 (most selective). Presentation of this information is made for three reasons: (1) so that comparison can be made with residents in the Foundation-sponsored programs, (2) so that a record of the undergraduate origins of residents in the combined program is made for descriptive purposes, and (3) so that a record is made available for future use in other studies. The distribution of the residents in the Federal programs according to their undergraduate colleges is given in Table 18. From this distribution it is clear that the residents generally came from the more selective schools. This, of course, would be true for any sample of physicians simply because medical students tend to come from the more selective undergraduate institutions. The distribution of undergraduate college selectivity for the Foundation sponsored residents, given in Table 18, is also skewed toward the selective end of the spectrum. When the Federal and Foundation-sponsored residents were compared by the Mann-Whitney U-test, there was no difference in the mean level of selectivity at the alpha = 0.05 level. Furthermore, when the undergraduate college selectivity of residents in primary care internal medicine tracks was contrasted with those in primary care pediatrics tracks, there was also no difference for the Federal programs (p = 0.44), for the Foundation programs (p = 0.60), and for the residents of both programs combined (p = 0.56).

TABLE 18

UNDERGRADUATE COLLEGE SELECTIVITY FOR PRIMARY CARE RESIDENTS BY PROGRAM SPONSORSHIP

Undergraduate College Selectivity	Federal Programs		Foundation Programs		Total PMC Residents*	
1 (least selective)	0	0%	0	0%	0	0%
2	0	0	1	1	1	1
3	0	0	3	2	3	2
4	4	6	25	17	28	14
5	12	16	25	17	32	16
6	18	25	22	15	36	19
7 (most selective)	39	53	70	48	95	49
Total	73	100%	146	100%	195	101%
Mean Rank	6.26		5.87		5.97	

Mann-Whitney U-test (Federal - Foundation): Z = 1.79 (p = .07).

*Residents at Boston University counted only once.

From this exercise it can be said that, to the extent that the Astin rankings are valid, residents in training for primary care tend to come from the more selective undergraduate colleges. This finding provides a partial answer to whether or not residents attracted to training programs in primary care are "equivalent" to residents in "straight" training programs. A definitive answer to the question of equivalency of undergraduate origins must await a study that contrasts these statistics with those for residents in other types of training programs.

Undergraduate Medical School

The seven Federally sponsored residency programs are associated with seven medical schools that are distributed across the nation. Addition of the Foundation-sponsored programs raises the total of different institutions listing programs for training in primary care to 15. As expected, the programs recruit residents from a variety of medical schools. These schools are listed, along with the number of residents recruited from each school, in Table 19 for the Federal programs and in Table 20 for the Federal and Foundation programs combined.

For the Federal programs, 88 of 92 residents responded. For the combined programs, with Boston University residents counted only once, 221 of 225 residents responded. The Federally sponsored residents attended 40 different medical schools in the United States and four medical schools abroad. The 221 residents in the combined programs obtained the M.D. degree from 68 medical schools in the United States and seven medical schools abroad. The residents who attended foreign medical schools were not citizens of the United States at the time of the survey. The foreign residents were from seven different countries.

The broad geographic distribution of both the primary care training programs and of the primary care residents' undergraduate medical schools was

TABLE 19

MEDICAL SCHOOL ATTENDED BY RESIDENTS IN FEDERAL PROGRAMS

School	Number	School	Number
Arkansas	1	New Jersey-Newark	1
Baylor	4	New York University	3
Brown	1	Ohio	1
Boston	6	Ohio-Toledo	1
California-Davis	1	Pennsylvania, University of	3
California-San Francisco	2	Pennsylvania State	1
Case-Western Reserve	2	Puerto Rico	2
Chicago	1	Rochester	1
Columbia	1	SUNY-Buffalo	4
Cornell	1	SUNY-Downstate	2
Einstein	3	SUNY-Stony Brook	2
Georgetown	1	SUNY-Upstate	1
George Washington	1	Temple	2
Harvard	5	Texas-San Antonio	1
Illinois	1	Texas-Southwestern	3
Johns Hopkins	1	Tufts	7
Kentucky	2	Vermont	2
Michigan, University of	1	Washington, St. Louis	2
Michigan State University	3	Yale	2
Minnesota-Minneapolis	3		
Mount Sinai	2	TOTAL	84
Foreign			
Argentina (Universidad Nacional)	1		
Korea (Seoul University)	1		
Mexico (Guadalajara)	1		
Peru (Cayetano Heredia)	1		

TABLE 20

MEDICAL SCHOOL ATTENDED FOR 221 FOUNDATION AND FEDERAL RESIDENTS

School	Number
Arizona	1
Arkansas	1
Baylor	7
Boston	8
Brown	1
California-Davis	2
California-Los Angeles	5
California-San Francisco	12
Case Western Reserve	4
Chicago Medical	2
U. Chicago	3
Colorado	1
Columbia	2
Cornell	5
Duke	2
Einstein	4
Emory	1
Florida	4
South Florida	1
Georgetown	2
George Washington	1
Georgia	1
Hahnemann	3
Harvard	22
Illinois	1
Iowa	1
Jefferson	2
Johns Hopkins	4
Kentucky	3
Louisville	1
Loyola Stritch	1
Massachusetts	1
Miami	2
U. Michigan	1
Michigan State	3
Minnesota-Minneapolis	3
Missouri-Columbia	1
Missouri-Kansas City	2
New York Medical	1
New York University	4
Mount Sinai	3
New Jersey-Newark	1
North Carolina	5
Northwestern	1
Ohio	1
Ohio-Toledo	1
Oklahoma	1
Pennsylvania, University of	3
Pennsylvania State	1
Pittsburgh	1
Rochester	9
St. Louis	2
Stanford	6
SUNY-Buffalo	4
SUNY-Downstate	4
SUNY-Stony Brook	3
SUNY-Upstate	1
Temple	5
Texas-San Antonio	1
Texas-Southwestern	6
Tufts	9
Tulane	2
Vermont	4
U. Virginia	1
Washington U.	3
Wayne State	1
Wisconsin	2
Yale	7
TOTAL	214

Foreign Schools

Argentina: Universidad Nacional	1
Great Britain: London University	1
India: Ghandi University	1
Ireland: University College	1
Korea: Seoul University	1
Mexico: Guadalajara	1
Peru: Cayetano Heredia	1
TOTAL	7

apparent. Yet in this diverse sampling of medical schools, there was an unexpected distribution of talent. A recent study by Cole and Lipton (1977) ranked the 95 American medical schools [1] that were in operation in the early 1970s according to the perceived quality of the undergraduate medical education offered. The medical school ranks were derived from responses to a survey of a large number of medical faculty who were asked to rank schools according to the "perceived quality" of undergraduate medical education offered. Perceived quality of medical education is, of course, a complex construct to measure in a poll. However, if taken as merely an opinion sampling, the results of the Cole-Lipton study appear to be useful, even if untested. Cole and Lipton have provided some validating information for the rankings in their study and it is only through the experimental use of the Cole-Lipton rankings of medical school "quality" that confidence in the validity of the ranks will become established. The assumption in presenting this information is that in the relative order of things some of a medical school's reputation for quality will no doubt come to be associated with the residency programs it sponsors.

The Cole-Lipton rankings were used to indicate the perceived quality (or reputation for quality) of the medical schools in which the primary care residents obtained their undergraduate medical education. Notable medical schools not included in the Cole-Lipton rankings are Brown, SUNY-Stony Brook, South Florida, Massachusetts, and Missouri-Kansas City. These schools represented only 3 of the Federally sponsored residents and 7 of the residents in the combined programs. For statistical presentation the 95 schools were divided into quintiles of 19 schools each. The five quintiles thus represent an ordering of virtually all American medical schools that were operational in 1971 and run from "high" quality (rank = 1) to "low" quality (rank = 5), as judged by the Cole-Lipton respondents. This information is given in Table 21. Grouping the data this way at once provides a

TABLE 21

NUMBER OF PRIMARY CARE RESIDENTS RANKED BY THE COLE-LIPTON PERCEIVED QUALITY OF MEDICAL SCHOOL SCORE

Quintile	Foundation Programs		Federal Programs		Total PMC*	
	Number	Percent	Number	Percent	Number	Percent
I (highest quality)	77	51.7%	28	34.6%	96	46.6%
II	38	25.5	26	32.1	53	25.7
III	15	10.1	16	19.8	28	13.6
IV	12	8.1	6	7.4	18	8.7
V (lowest quality)	7	4.7	5	6.2	11	5.3
Total	149	100.1%	81	100.1%	206	99.9%

*Residents from Boston City Hospital counted only once.

manageable table and avoids the problem of institutions feeling they were misranked ("Our medical school was ranked 23rd when it is really 22nd.") It can be assumed that the further apart institutions are in the rankings, the more accurate is the true relationship.

Of the residents in the Federal sponsored programs, one-third attended medical schools of the highest quality and two-thirds attended schools that ranked in the top 40 percent of the ranked schools. The distribution for the Foundation-sponsored residents was somewhat different. About half of the Foundation-sponsored residents attended schools in the highest quality quintile and over three-quarters attended schools in the top 40 percent of the ranked schools. Although both programs attracted residents primarily from schools in the higher quality quintiles, the distributions were not the same. In order to obtain a better measure, the Mann-Whitney statistics reported here do not include residents from the programs at Florida, Rochester or Missouri at Kansas City because of the nature of the residency training programs at those schools. The Mann-Whitney U-test for which the two distributions were drawn from the same population yields a U statistic with a $Z = 3.01$ ($p = .003$). The test would still be of the same order of "significance" if Florida, Rochester, and Missouri were included. The mean Cole-Lipton rank for the Federal residents was 29.71 and the mean rank for the reduced Foundation residents was 18.60. The residents in the Federal programs clearly came from medical schools with lesser reputations for quality of undergraduate medical education. This is an interesting finding in view of the data presented above which indicate that there is no difference in the selectivity of the undergraduate colleges from which the two groups of residents emerged. It becomes of greater interest in view of the information presented in the chapter on Programs (below) which utilizes the same Cole-Lipton ranks for the host institutions to demonstrate that there is no rank difference between the host institutions of the Federal and the Foundation primary care residency training programs.

The rankings of undergraduate medical schools provided by Cole and Lipton were used to obtain additional understanding about the academic origins of the residents who enrolled in the primary care training programs. During each site visit, lists of residents in straight internal medicine and straight pediatrics (where appropriate) tracks, along with name of medical college attended, were obtained for the year of the study. These lists of straight residents were intended for use in obtaining NBME scores for contrast with the scores for the primary care residents. To obtain the NBME scores for each resident, it was necessary to identify both the resident and his or her undergraduate medical school. The NBME agreed to supply scores with certain restrictions that individual scores would be provided only with a group designation (residency program and track) and that the groups would contain names for four or more persons. With these coded scores it would be possible to collapse groups and contrast groups in a statistically reasonable way. The coded name cards provided for contrast groups to the NBME for search purposes could also be used, because of group identification, for contrasting the ranks of undergraduate medical schools attended by residents in the more traditional tracks.

For the analyses that follow residents from Dartmouth are omitted because there were too few residents, and the residents from Florida, Missouri, and Rochester were omitted because they offered atypical programs, a matter that is discussed in another section of this report. When the residents in both the Federal and Foundation-sponsored programs were combined the residents at Boston University were counted only once.

Data associated with statistical tests for selected contrasts between tracked primary care and traditional (straight) residents are presented in Table 22

TABLE 22

COMPARISON OF COLE-LIPTON RANKS FOR PRIMARY CARE RESIDENTS AND FOR RESIDENTS IN TRADITIONAL MEDICINE AND PEDIATRICS TRACKS AT THE SAME HOST INSTITUTIONS

Program Sponsor	Contrast	Mann-Whitney U-test Z-value	Group Means PMC (1)	Group Means Straight (2)	Group N's (1)	Group N's (2)	p
Federal Programs	PMC-IM vs. Straight-IM	-1.06	29.0	32.3	50	342	.288
	PMC-Peds vs. Straight-Peds	-0.58	31.9	35.1	27	206	.559
Foundation Programs	PMC-IM vs. Straight-IM	-2.40	21.4	29.4	72	301	.017
	PMC-Peds vs. Straight-Peds	-1.58	22.9	32.1	20	60	.114
Combined Programs	PMC-IM vs. Straight-IM	-3.03	24.7	31.3	110	604	.003
	PMC-Peds vs. Straight-Peds	-1.68	27.0	33.8	36	225	.092

for Federal and Foundation-sponsored residents and for the residents in the combined programs. Within the Federal programs there was no statistical difference between the Cole-Lipton ranks for primary care and straight residents in internal medicine tracks and between primary care and straight residents in pediatrics tracks, although in both cases the group means for the primary care residents represented a numerically higher rank than that for the straight residents.

For the residents in institutions with Foundation-sponsored programs the group means for the primary care medicine and primary care pediatrics residents were also numerically higher than for the residents in comparable straight residencies and the difference between the former and internal medicine residents was statistically significant (p = .017). This indicates that the Foundation programs attracted residents from a range of medical schools that were perceived as being of better quality than those of comparable straight residents at the same institutions.

When the residents in the Federal and Foundation programs were combined (counting the residents at Boston University only once) the pattern established for the Foundation-sponsored residents holds: primary care PMC residents in internal medicine and pediatrics tracks have their academic origins in undergraduate medical schools whose programs are perceived to have a higher reputation for the quality of education offered, as estimated by Cole and Lipton.

It is possible to validate these findings with another sample of residents. During the site visits an attempt was made to interview a sample of residents from other non-primary care tracks. Sampling of these interviewees was by the local program director who arranged for the interviews. Thus, the sample at any given site was a convenience sample of miscellaneous non-primary care residents who were available by prearrangement and who consented to a twenty minute interview. During the interview these respondents were asked to name the medical school from which they received their medical degree. These schools and the interviewed residents were coded as in the above study and then the Cole-Lipton ranks for their medical schools were contrasted with the ranks for the primary care residents. The results were similar to those presented in Table 22 and will not be repeated here. Clearly this second convenience sample contained some of the residents in the first more inclusive sample for whom NBME scores were requested. This latter group, however, also included residents in surgery, psychiatry, dermatology and other specialties. This evidence reinforces the finding that the residents enrolled in primary care training programs in both medicine and pediatrics have their origins at worst in schools that are the equivalent to the schools that produce residents attracted to the traditional tracks and at best in the schools that are regarded more highly for the quality of medical education offered.

Performance of Residents on the National Board of Medical Examiners Examinations

This section presents information on the performance of residents in medicine and pediatrics tracks and under Federal and Foundation sponsorship on the standardized tests offered by the NBME.

The NBME examinations are offered to medical students at three points during the course of their studies. The first set of examinations is given at the end of two years in medical school and generally coincides with the end of formal course work in the basic sciences. The seven subtests offered at this time are Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, and more recently, Behavioral Sciences. The seven tests are averaged by the NBME for each student and a mean score is generated that is called the Part 1 score.

The second set of examinations is usually taken at the end of four years of medical school and coincides with the end of medical school, the end of the so-called clinical part of the curriculum, and the granting of the M.D. degree. The six subtests of this battery are Medicine, Surgery, Obstetrics-Gynecology, Preventive Medicine-Public Health, Pediatrics, and Psychiatry. A mean score is also generated by the NBME for these six tests and this is called the Part 2 score.

A third examination, called the Part 3 score, is offered during the PG 1 year of residency training. The purpose of this examination is to evaluate clinical competence at the time when a physician assumes independent responsibility for patients.

The NBME provided scores, when available, for the three parts of the examination for groups of names supplied for this purpose. To protect confidentiality, the NBME set the following rules for making scores available: (1) Part 1 was taken either 2 or 1 years before graduation from medical school; (2) only "first time" scores were included; (3) the examinee entered the NBME system in 1972 or later; and (4) a minimum of 4 persons were listed in a coded residency group and a minimum of 3 persons within a given residency group had to have NBME scores.

Scores were grouped by program, whose code indicated either Foundation or Federal sponsorship, and track (which produced a variable with levels of primary care - internal medicine, primary care - pediatrics, straight internal medicine, and straight pediatrics). Use of the program identification enabled culling of Dartmouth, Florida, George Washington, Missouri - Kansas City, and Rochester, all Foundation-sponsored programs, for various reasons, and for the manipulation of Boston University residents who were funded by both agencies. It also enabled sampling, which was necessary because of the varying sizes of traditional residency programs. An attempt was made by random sampling to keep the size of the samples for the traditional internal medicine and pediatrics track residents to no larger than twice the size of the comparable primary care residents in each track at each institution. A small number of residents were discarded because they had no scores for either all of Part 1 or all of Part 2 of the examinations.

The NBME scores are standardized with a national mean of 500 and a standard deviation of 100. For this group of residents individual scores ranged from below 200 to above 800 on certain tests. Finally, because of its recent development, scores on the Behavioral Science subtest were not available for a small number of residents.

Multivariate analysis of variance was used to determine whether differences existed between residents in primary care tracks and residents in traditional tracks in several combinations on all the NBME tests. Because the major thrust of this study was descriptive, the hypotheses to be tested were not directional; because of the large number of tests performed, no attempt was made to control the experiment-wise error rate (Bonferoni adjustments); and because the circumstances of the sampling and score gathering procedure prevented technical rigor, the reader is admonished to use this information with caution. The multivariate F-tests were used for two groups and are first presented for the total scores of Parts 1, 2, and 3 for an overall view of residents' performance; they are then presented for the subscales of Parts 1 and 2 sets of examinations for a more detailed look at where differences in performance, if any, show up. All multivariate tests were calculated with Version 7.0 (June 27, 1977) of the SPSS program MANOVA as available on the CDC 6400 computer at the Computer Center of the University of California, Berkeley.

Performance of Residents in Internal Medicine

The basic statistics for residents in internal medicine tracks on Parts 1, 2, and 3 or the NBME examinations are summarized in Table 23. The omnibus F-tests for the comparisons between residents in the internal medicine primary care and traditional (straight) tracks in the Federally sponsored programs ($F = 1.55$, $\nu 1 = 3$, $\nu 2 = 116$, $p = 0.21$), the Foundation sponsored programs ($F = 1.52$, $\nu 1 = 3$, $\nu 2 = 128$, $p = 0.21$), and the programs combined ($F = 1.46$, $\nu 1 = 3$, $\nu 2 = 216$, $p = 0.23$) indicate that with respect to the three parts of the NBME examinations there are no differences between the mean scores for the contrasted groups. Furthermore, none of the univariate t-test statistics had a probability of less than 0.10.

Examination of the mean scores for the residents in internal medicine in the Federal programs indicates that the three scores are about a third of a standard deviation above the standardized national mean ($\overline{X} = 500$, S.D. = 100) for all physicians taking the examinations. Furthermore, the means for the Federally sponsored internal medicine residents are not statistically different from the means for an appropriate contrast group. In terms of standard deviations, the gap between the Federal internal medicine residents and the straight residents is about 0.3 for Part 1, 0.15 for Part 2, and virtually 0 for Part 3 scores. Based on this evidence, the Federal internal medicine residents perform (1) above the national norm on the NBME examinations, and (2) at least as well as the residents in traditional medicine tracks at the same host institutions.

The means for Parts 1, 2, and 3 NBME scores for the medicine residents in Foundation-sponsored programs are also summarized in Table 23. The Foundation means are somewhat numerically higher than the Federal means because they are about 0.4 standard deviations above the means for the Federal residents and about 0.6 to 1.0 standard deviations above the national norm for all physicians. Means for residents in straight tracks in the Foundation host institutions are also above the means for the straight residents in Federal host institutions. A multivariate analysis of variance test between tracked internal medicine residents in Federal and Foundation-sponsored programs indicated a difference ($F = 3.09$, $\nu 1 = 3$, $\nu 2 = 82$, $p = 0.15$) that can be accounted for by the Part 3 score difference (Federal $\overline{X}$

TABLE 23

STATISTICS FOR PART 1, PART 2, AND PART 3 NBME SCORES FOR INTERNAL MEDICINE RESIDENTS

Source of Variance	MANOVA F-test	Variable	T-test	Group Means		Standard Deviation
				PMC-IM	Str.-IM	
Federal Programs Between PMC and Straight Medicine Residents	1.55^a	Part 1	-1.64	529	558	92
		Part 2	-0.81	524	538	88
		Part 3	-0.12	542	544	86
Foundation Programs Between PMC and Straight Medicine Residents	1.52^b	Part 1	-0.98	568	585	92
		Part 2	0.17	561	558	82
		Part 3	0.97	597	582	81
Combined Programs Between PMC and Straight Medicine Residents	1.46^c	Part 1	-1.26	551	568	95
		Part 2	-0.51	543	550	88
		Part 3	0.48	571	566	87

a) $\nu_1 = 3$, $\nu_2 = 116$, $p = .21$; t-test n's are 40 and 80.

b) $\nu_1 = 3$, $\nu_2 = 128$, $p = .21$; t-test n's are 46 and 86.

c) $\nu_1 = 3$, $\nu_2 = 216$, $p = .23$; t-test n's are 74 and 146.

542, Foundation $\bar{X}$ = 597; t = 2.85, p = 0 .01).

The subtest means for the Parts 1 and 2 examinations were also contrasted by the multivariate analysis of variance in order to better understand the differences that might exist between Federal and Foundation residents in internal medicine and for use in helping to decide whether or not to combine the two groups of residents under different sponsorship for composite scores. The multivariate F for Part 1 subtest scores (p = 0.08) was not significant. However, the t statistics for Physiology, Pathology, and Preventive Medicine-Public Health (p = 0.05) and Medicine (p = 0.01) indicated possible areas of significant difference. The finding that the scores in the medicine examination differ, even when considered against whatever Bonferoni adjustments might be made to compensate for the large number of tests, suggests the use of caution in interpreting these combined data. This caution is further suggested by the significant difference on the Part 3 score described earlier.

These differences notwithstanding, the statistics for the combined Federal and Foundation primary care and straight internal medicine residents (with the Boston residents counted only once) are presented in Table 23 in the interest of completeness and for the record. The F statistic (given earlier) was not significant and the individual t statistics indicated no mean differences for each part of the examinations.

Table 24 summarizes the statistics for the subtests in Parts 1 and 2 of the NBME examinations for internal medicine residents combined (Boston counted once). The F statistics for Part 1 (F = 0.61, ν 1 = 7, 2 = 185, p = 0.75) and Part 2 (F = 1.74, ν 1 = 6, ν 2 = 213, p = 0.11) are not significant at the 0.05 level and the individual tests for each of the separate variables do not approach statistical significance even without adjusting for multiple or additive Type I alpha (Bonferoni considerations) levels.

TABLE 24

STATISTICS FOR SUB-SCORES FOR PART 1 AND PART 2 NBME TESTS FOR INTERNAL MEDICINE RESIDENTS IN THE FEDERAL AND FOUNDATION PROGRAMS COMBINED

Source of Variance	MANOVA F-test	Variable	T-test	Group Means PMC-IM	Group Means Str-IM	Standard Deviation
Between PMC Residents and Straight Medicine Residents	0.61[a]	Anatomy	-0.74	538	550	102
		Physiology	-1.20	539	558	101
		Biochemistry	-1.60	535	563	101
		Pathology	-1.57	535	558	94
		Microbiology	-1.49	534	557	100
		Pharmacology	-0.97	541	555	95
		Behavioral Science	-0.21	543	546	96
	Part 1 Mean Scores		-1.26	551	568	95
Between PMC Residents and Straight Medicine Residents	1.74[b]	Medicine	-1.70	541	563	92
		Surgery	-1.36	519	538	95
		Obstetrics-Gynecology	-0.17	532	534	88
		Preventive Medicine/ Public Health	-0.00	543	543	101
		Pediatrics	0.68	542	533	93
		Psychiatry	0.37	534	529	93
	Part 2 Mean Scores		-0.51	543	550	88

a) $\nu_1 = 7$, $\nu_2 = 185$, $p = .75$; t-test n's are 64 and 129.

b) $\nu_1 = 6$, $\nu_2 = 213$, $p = .11$; t-test n's are 74 and 146.

Inspection of the group means for the various tests for the primary care residents presented in Tables 23 and 24 indicates that the means for the Part 1, 2, and 3 scores are slightly below the means for the straight residents on Parts 1 and 2 and slightly above for the Part 3 scores, no score being more than 0.2 standard deviation from the other score. A similar situation prevails for the 13 subtests of Parts 1 and 2.

Based on this information, with the caveats already mentioned, the primary care internal medicine residents performed as well on the NBME tests as did the traditional internal medicine residents in the same host institutions. Whatever differences there were in mean scores tend to be manifested in the Part 1 (basic science) scores, tend to moderate in the Part 2 (clinical science) scores and are not present in the Part 3 scores.

Performance of Residents in Pediatrics

The NBME scores for primary care and traditional (straight) pediatrics residents in Federally sponsored and Foundation-sponsored programs were analyzed in a way analogous to the way scores for medicine residents were analyzed in the previous section. Similar sampling procedures were followed in sampling. However, for the pediatrics residents it should be noted that only two of the nine programs funded by the Foundation had operational pediatrics tracks at the time of data gathering (Boston and University of California at San Francisco).

Table 25 and Table 26 contain information on statistical tests for pediatrics residents. The statistics for the Federal contrast between sponsored and traditional residents ($F = 1.41$, $\nu 1 = 3$, $\nu 2 = 48$, $p = 0.25$), for the Foundation contrasts ($F = 0.36$, $1 = 3$, $\nu 2 = 46$, $p = 0.78$) and for the combined programs (Boston counted only once) ($F = 0.87$, $\nu 1 = 3$, $\nu 2 = 76$, $p = 0.46$) for Parts 1, 2, and 3 scores

TABLE 25

STATISTICS FOR PART 1, PART 2, AND PART 3 NBME SCORES FOR PEDIATRICS RESIDENTS

Source of Variance	MANOVA F-test	Variable	T-test	Group Means		Standard Deviation
				PMC-Peds	Str-Peds	
Federal Programs Between PMC and Straight Pediatric Residents	1.41[a]	Part 1	-1.17	463	490	82
		Part 2	-1.74	467	511	89
		Part 3	-0.60	461	477	93
Foundation Programs Between PMC and Straight Pediatric Residents	0.36[b]	Part 1	-0.55	481	492	70
		Part 2	-0.13	484	488	92
		Part 3	0.32	496	488	90
Combined Programs Between PMC and Straight Pediatric Residents	0.87[c]	Part 1	-1.11	474	495	80
		Part 2	-1.25	477	504	96
		Part 3	-0.39	481	489	96

a) $\nu_1 = 3$, $\nu_2 = 48$, $p = .25$; t-test n's are 19 and 33.

b) $\nu_1 = 3$, $\nu_2 = 46$, $p = .78$; t-test n's are 21 and 29.

c) $\nu_1 = 3$, $\nu_2 = 76$, $p = .46$; t-test n's are 30 and 50.

were not significant. The means for the Federal residents were about 0.5, 0.3, and 0.2 standard deviations below the means for the traditional residents. All three means for Federal residents in pediatrics were about a third of a standard deviation below the national norm of 500 for all physicians taking the examinations, whereas the residents in straight pediatrics tracks at the same host institutions tend to have their scores more closely cluster around the national norm. It should be emphasized that there are no statistically significant differences on any of the subscores.

Similar interpretation can be made of the statistics associated with residents' scores in the Foundation progams and associated with the scores of the residents in the programs when combined. (The residents in the two programs were combined on the basis of multivariate tests that indicated that there were no differences between their performances on Parts 1, 2, and 3 or between their performances on the basic science or clinical science subscores of Parts 1 and 2 of the examinations.) On the whole it can be said that the pediatrics residents in the sponsored programs perform about a quarter of a standard deviation below physicians in general on the Parts 1, 2, and 3 tests, whereas the traditional pediatrics residents at the same institutions perform somewhat higher in absolute terms (almost at the national means), although the difference is not statistically significant.

Detailed information is presented in Table 26 on the 13 subtests of the Parts 1 and 2 examinations. These results reinforce what has been said earlier; pediatrics residents in primary care tracks tend to score about a quarter of a standard deviation below the norm on the basic science tests and somewhat differently on the clinical science tests. In the latter tests, it should be mentioned that the primary care residents score at exactly the national norm on the pediatrics subtest.

TABLE 26

STATISTICS FOR SUB-SCORES FOR PART 1 AND PART 2 NBME TESTS FOR PEDIATRICS RESIDENTS IN THE FEDERAL AND FOUNDATION PROGRAMS COMBINED

Source of Variance	MANOVA F-test	Variable	T-test	Group Means		Standard Deviation
				PMC-Peds	Str-Peds	
Between PMC Residents and Straight Pediatrics Residents	0.65[a]	Anatomy	0.31	474	467	90
		Physiology	0.59	483	470	90
		Biochemistry	-0.42	484	493	83
		Pathology	-0.97	471	492	89
		Microbiology	-0.94	475	493	78
		Pharmacology	-0.74	479	495	91
		Behavioral Science	0.26	507	501	101
	Part 1 Mean Scores		-1.11	474	495	80
Between PMC Residents and Straight Pediatrics Residents	0.61[b]	Medicine	-1.25	462	487	87
		Surgery	-1.19	450	477	96
		Obstetrics-Gynecology	-1.32	466	494	94
		Preventive Medicine/ Public Health	-0.06	513	515	97
		Pediatrics	-1.59	500	539	107
		Psychiatry	-0.63	504	519	101
	Part 2 Mean Scores		-1.25	477	504	96

a) $\nu_1 = 7$, $\nu_2 = 64$, $p = .71$; t-test n's are 27 and 45.

b) $\nu_1 = 6$, $\nu_2 = 73$, $p = .72$; t-test n's are 30 and 50.

Some Miscellaneous Information on the Residents' Academic Origins

The residents were asked whether or not their undergraduate medical school offered primary care electives and whether or not they took them. About 86 percent of the respondents (as contrasted with 85 percent of the Foundation-sponsored respondents) indicated that primary care electives were available in medical school. Only 59 percent of the Federally sponsored residents (as contrasted with 65 percent of the Foundation-sponsored residents) indicated that they enrolled in these electives.

Information was also available from the residents on whether or not they were Diplomates of the NBME. Diplomates of the NBME have successfully completed all three parts of the NBME examinations, have received the M.D. degree from an accredited United States or Canadian school, and have completed one year of accredited graduate training (Hubbard and Schumacher, 1971). About 66 percent of the Federally sponsored primary care resident respondents (N = 52) indicated they were Diplomates of the NBME; as did 66 percent of the Foundation-sponsored respondents (N = 117). Nationally, from 75 to 80 percent of United States medical school graduates become Diplomates of the NBME. The number of primary care residents who were diplomates in this sample may be biased on the low side because of the relatively large number of PG 1 residents and the time of the year when the data were collected.

Time of Decision to Enter Training for Primary Care

The Resident Questionnaire was used to obtain information on the time in the educational cycle when the decision to enter primary care training was made. Responses for the residents in the Federal, the Foundation, and the combined programs are summarized in Table 27. More than half the residents in the Federal programs indicated that they made the decision to enter primary care training while in medical school. About 8 percent of the residents indicated that they made the decision at the time of graduation from medical school. Thus about 90 percent of the residents in Federally sponsored training programs decided to enter primary care training before completing medical school. Of those who decided to enter these training programs upon graduation or toward the end of medical school training, some were probably selected into primary care training programs through the National Intern and Resident Matching Program.

Only about 15 percent of the respondents indicated that they decided to enter primary care training at the time of graduation from medical school or later. Of the 6 percent who decided after graduation, most transferred from another residency and only a trace decided while in private practice. None of the residents made the decision while in military service or in the National Health Corps.

Table 27 also contains information from 45 non-primary care residents who were asked to respond to a similar question during the site visits. In this sample of non-primary care residents, which included residents in straight internal medicine, surgery, psychiatry, and pediatrics, over 90 percent decided to enter their specialty before graduating from medical school, a figure which is about the same for the residents in primary care training. However, the distribution of residents in the straight specialties, when broken down by time period, was quite different from the distribution for the residents in primary care training. About three times as many residents in primary care training made the decision to enter their residency training before medical school. For this sample, it appeared that the decision to enter primary care training was in many cases made early in the educational process.

The data in Table 27 also indicates that about 80 percent of the residents in

TABLE 27

WHEN PRIMARY CARE RESIDENTS AND NON-PRIMARY CARE RESIDENTS DECIDE TO ENTER A SPECIFIC KIND OF RESIDENCY

	Foundation Programs				Federal Programs				Total*			
When Decision Made	PMC		Straight		PMC		Straight		PMC		Straight	
Before medical school	29	20.9%	8	12.3%	21	25.3%	4	8.9%	42	21.4%	9	9.8
In medical school	68	48.9	52	80.0	47	56.6	34	75.6	103	52.6	71	77.2
Upon graduation	14	10.1	1	1.5	7	8.4	3	6.7	16	8.2	1	1.1
During another residency	17	12.2	2	3.1	4	4.8	4	8.9	20	10.2	4	4.3
While in private practice	2	1.4	1	1.5	1	1.2	--	--	3	1.5	6	6.5
While in military service	2	1.4	1	1.5	--	--	--	--	2	1.0	--	--
In the National Health Corps	1	.7	--	--	--	--	--	--	1	.5	1	1.1
Cannot really pin it down	6	4.3	--	--	3	3.6	--	--	9	4.6	--	--
Total	139	100.0%	65	99.9%	83	99.9%	45	100.1%	196	100.0%	92	100.0

*Boston City Hospital residents counted only once.

the Foundation programs decided to enter primary care training before completing medical school, whereas over 90 percent of the contrast residents in the traditional specialty training programs decided to enter their specialties before completing medical school. Given the margin of error for the small numbers of residents in these samples, the figures for the contrast residents (a medley of other specialties) for both programs appear to be comparable.

In view of this prima facie comparability, it is useful to examine the combined samples of residents in primary care training programs and residents in traditional training programs at the same institutions. About 82 percent of the primary care residents and about 88 percent of the straight residents decided to enter their specialties before graduating from medical school. However, a larger percentage of the residents in primary care training than in straight training opted for primary care either before entering medical school or upon graduation from medical school.

The eight response options to the item that asked for the time of decision for going into primary care training can be reduced to 5 ranks that coincide with the time the decision was made. These ranks can then be used to test whether or not different samples (subgroups) come from the same population. Because each test performed contrasted two groups, the Mann-Whitney U-test was used. The following groups were compared.

For the Federal Programs:

(1) Medicine (PMC) vs straight residents

(2) Pediatrics (PMC) vs straight residents

For the Foundation programs:

(3) Medicine (PMC) vs straight residents

(4) Pediatrics (PMC) vs straight residents

For the combined Federal and Foundation programs:

(5) Medicine (PMC) vs straight residents

(6) Pediatrics (PMC) vs straight residents

None of the tests were significant. This indicates that the time of decision making for entering either traditional specialty training for primary medical care is about the same for all of the groups tested. Specifically, residents in the training programs for primary care medicine or pediatrics make the decision to enter their specialty tracks at about the same time during their educational career, and the time of this decision is not statistically different from the time of decision for a sample of residents in traditional tracks in the same institutions.

Number of Residents Entering Primary Care Training Programs from Other Residencies

Some perspective on the decision to enter primary care training can be obtained from inspection of Table 28. Program directors were asked to indicate how many residents transferred into primary care training from other residency training programs or from private practice. The data in Table 28 indicate that the vast majority of both Federal and Foundation residents who transferred "in" came from traditional internal medicine and pediatrics residency training programs or from related subspecialty training programs.

Reasons for Selecting a Particular Residency Training Program

Why Residents Select Primary Care Training

Residents in both the Foundation-sponsored and the Federally sponsored primary care training programs were asked to indicate if there was a particular event or incident that triggered their decision to enter primary care training.

TABLE 28

NUMBER OF RESIDENTS ENTERING PRIMARY CARE TRAINING PROGRAMS FROM OTHER RESIDENCY TRAINING PROGRAMS

Residency	Federal Programs	Foundation Programs	Combined* Programs
From internal medicine and subspecialties	25	32	56
From Pediatrics and subspecialties	22	14	33
From Family Medicine	2	1	3
From "other" (unspecified)	2	-	2
From surgery and subspecialties	-	1	1
From psychiatry	-	1	1
From private practice	-	5	5
Total	51	54	101

*Program at Boston University counted only once.

About 20 percent of the respondents said that there was an incident, and most responded to an open-ended request to indicate what the nature of that incident was. These responses are given for the Federally sponsored residents in Appendix K.

The Residents Questionnaire contained an item that asked the residents to indicate their reasons for selecting primary care training by checking off appropriate reasons from a list that was provided for that purpose. These responses are presented in Table 29 for both Federal and Foundation residents and for a group of contrast residents. Because the respondents were asked to check all options that applied to their reasons, the numbers add up to more than the total number of respondents. Percentages are given in terms of the number of respondents and thus the sum is more than 100 percent for each column.

Responses to the question What were your reason(s) for selecting primary medical care (or your particular residency)? are given in Table 29 for Federally sponsored and Foundation-sponsored residents in training for primary care and for groups of residents in traditional residency programs at the same host institutions. Percentages were calculated in terms of the number of residents responding (as opposed to the number of responses) in order to indicate the relative importance of the options responded to. For each group the number of responses was divided by the number of respondents to obtain an index of responses to respondents. For each of the six groups the indexes of responses range over a narrow band that runs from 2.57 to 2.72. Because the numbers were so close it seems likely that groups of traditional residents responded to the question in a way that was similar to the way groups of primary care residents responded, at least in terms of the gross number of responses.

The pattern of responses for primary care residents in the Federally sponsored programs to the items in Table 29 was much the same as the pattern of

TABLE 29

WHY RESIDENTS SELECT A PRIMARY CARE RESIDENCY PROGRAM

	Federal Programs				Foundation Programs				Combined Programs*			
Reasons	PMC		Straight		PMC		Straight		PMC		Straight	
Appears to be personally satisfying	61	74%	24	56%	103	72%	39	61%	145	73%	50	56%
Society needs (specialty) practitioners	51	62%	4	9%	77	54%	6	9%	111	56%	9	10%
Best way to utilize and apply my interests and talents	44	54%	23	53%	86	60%	35	55%	115	58%	46	52%
Appears to be professionally satisfying	37	45%	29	67%	65	45%	43	67%	93	47%	58	65%
Inspired by others in the discipline	12	15%	16	37%	25	17%	28	44%	35	18%	33	37%
Better opportunities for locating (geographically) professionally	7	9%	1	2%	18	13%	5	8%	24	12%	6	7%
Other	8	10%	15	35%	13	9%	13	20%	19	10%	27	30%
Total Responses**	220		112		387		169		542		229	
Total Respondents	82		43		143		64		199		89	
Responses/Respondents	2.68		2.60		2.71		2.64		2.72		2.57	

*Boston City Hospital residents counted only once.

**Since respondents could check more than one category totals are greater than the number of respondents. Percentages are in terms of respondents and also add to more than 100 percent.

responses for the primary care residents in the Foundation programs. About three-quarters of the primary care residents indicated that residency training in primary care appeared to be "personally satisfying." More than half of the respondents indicated that they felt that "Society needs primary care practitioners" and that primary care is the "Best way to utilize and apply my interests and talents."

Because the percentage of respondents choosing each item was so close for the sponsored primary care residents and for the contrast groups of traditional residents, it was useful to collapse the sponsored groups and the contrast groups and to discuss the combined groups, with the residents at Boston City Hospital counted only once. The percentage spread between sponsored and straight residents' responses was quite large (about 20 points) for all items except the item "Best way to utilize my talents." The primary care residents saw their "specialty" of "primary care" as appearing to be personally satisfying and as being useful to society in greater degree than did the straight residents. The distinction was particularly great in the item "Society needs primary care practitioners" to which 56 percent of the primary care residents responded as opposed to only 10 percent of the residents in traditional residencies. The social value of primary care training was traded off for "A professionally satisfying (career)" and being "Inspired by others in the discipline" by the traditional residents. Thus, where differences appeared, the primary care residents tended to see the specialty as being personally satisfying and needed by society, whereas the traditional residents tended to see their specialty as professionally satisfying and as resulting from the inspiration of others or, perhaps, more appropriate role models. Primary care residents were more inclined to seek out a residency that anticipated a more personally satisfying career, whereas traditional residents tended to look for a residency that would enable them better opportunities to relocate professionally.

Why Residents Select A Particular Program

The Resident Questionnaire also contained an item that asked "What were your reasons for selecting this particular program?" Responses for residents in the sponsored tracks and in the traditional tracks at the same institutions are summarized in Table 30.

Slightly more than 50 percent of the residents in the Federally sponsored programs indicated that the primary care program "Best fitted my image of a desirable program" as opposed to only 15 percent of the residents in traditional tracks at the same institutions. Straight residents, as sampled by this group of residents in traditional residency tracks, tended to place more emphasis on geographic location and reputation.

Responses for both groups of residents in the institutions with Foundation-sponsored programs were similar to those in the Federally sponsored programs with the exception that reputation and geographic location appeared to be more salient reasons for selecting a program for residents in Foundation-sponsored programs.

Responses of residents in the Federal and the Foundation programs were combined for an overview, and these data are also presented in Table 30. In general, the primary care residents perceived their particular training program as best fitting their image of a desirable program by better than three to one over the traditional residents. The sample of traditional residents indicated that program location, program reputation, and program content were the more important reasons for selecting a specific residency training program. A number of respondents to the Resident Questionnaire took the opportunity to elaborate on the option "Other" to this item. These responses are reported verbatim in Appendix L.

TABLE 30

WHY RESIDENTS SELECT A PARTICULAR KIND OF RESIDENCY PROGRAM

Reasons	Federal Programs				Foundation Programs				Combined Programs*			
	PMC		Straight		PMC		Straight		PMC		Straight	
Best fitted my image of a desirable program	43	52%	6	15%	70	49%	8	15%	103	52%	12	15%
Geographic location	36	43%	28	68%	77	54%	35	64%	92	46%	52	63%
Reputation	26	31%	23	56%	68	48%	40	73%	84	42%	54	66%
Provides a varied training program	25	30%	13	32%	45	31%	27	49%	64	32%	33	40%
Had friends in (the program)	13	16%	5	12%	21	15%	6	11%	31	16%	10	12%
Other	30	36%	19	46%	41	29%	19	35%	64	32%	30	37%
Total Responses**	173		94		322		135		438		191	
Total Respondents	83		41		143		55		200		82	
Responses/Respondents	2.08		2.29		2.25		2.45		2.19		2.33	

*Boston City Hospital residents counted only once.

**Since respondents could check more than one category totals are greater than the number of respondents. Percentages are in terms of respondents and also add to more than 100 percent.

Plans for a Fourth Year of Training

The residents in Federally sponsored programs were asked if they planned to "take" a fourth year of residency or fellowship training. About one-third of the respondents indicated that a fourth year of residency training was planned. When asked to indicate their intended specialties, assuming a fourth year of residency training, eight cited the specialties listed in Table 31. These specialties spanned the spectrum of subspecialty training with no one specialty attracting any cluster of respondents. These eight responses represented less than 10 percent of the residents in Federally sponsored programs.

A similar response pattern was found for the residents in the Foundation-sponsored programs. About a third of the residents indicated interest in a fourth year of training, and those listing a field of interest fell into no particular pattern.

How Residents Assess Their Training

Residents in the Federal and the Foundation programs were asked whether or not the program matched their expectations. Sixty-three percent of the Federally sponsored residents and 55 percent of the Foundation-sponsored residents replied "yes." Respondents were then asked to indicate the "basis for any discrepancy" between expectations and reality. These open-ended responses are reported verbatim in Appendix M. References to specific programs or to specific individuals were deleted during response transcription. The responses indicated that opinions about training experiences spanned the entire range from most positive to most negative. Some respondents did not hesitate to name names. Some were quite critical. Because of the large number of candid and lengthy responses and the wide variation in the sentiments expressed, no content analysis

TABLE 31

SPECIALTIES CITED BY EIGHT PRIMARY CARE RESIDENTS WHO PLAN A FOURTH YEAR OF RESIDENCY TRAINING AND LEVEL OF RESPONDENT

	Level of Respondent		
Specialty	PG1	PG2	PG3
Child Neurology	1		
Child Psychiatry		1	
Family Practice			1
Hypertension		1	
Infectious Disease		1	
Nephrology		1	
Pediatrics			1
Psychiatry	1		
Total	2	4	2

was attempted. The reader is encouraged to savor the responses.

The primary care residents were also asked to indicate whether or not they would reapply for the program. Of the Federally sponsored respondents (N = 81), 93 percent said that they would reapply, and 86 percent of the Foundation-sponsored residents indicated they would reapply to the same program. Nine Federally sponsored residents took the opportunity to respond with a statement, although no response was asked for, and these comments are given verbatim (with identifying names and places deleted) in Appendix N. These comments complement the comments in Appendix M, which explain why the residents felt that there was a discrepancy between their expectations and the reality of the training program.

Why Residents Leave Primary Care Training Programs

Some of the personal reasons for dissatisfaction with the training programs as expressed by the residents have already been presented. The program directors were asked to indicate in two different places in the questionnaires they were asked to complete, why residents withdrew from their programs. In one item the directors were asked how many residents left their programs in a structured way with categorical reasons supplied. These reasons are presented in Table 32 together with the number of Federal programs that indicated each reason. Four programs lost residents who entered other specialties and four lost residents because of dissatisfaction with primary care as a potential career. Four of these withdrawals probably ought to be included in the category of "withdrawing in order to enter another specialty." Three programs lost residents because of dissatisfaction with the program.

The program directors were also asked to indicate how many residents left before completing the program and why they left. These responses are given in

TABLE 32

REASONS WHY RESIDENTS LEAVE PROGRAMS AND NUMBER OF PROGRAMS WHERE THE REASONS APPLIED

Reasons for Leaving	Number of Programs
To select another medical/surgical specialty	4
Personal reason	2
Dissatisfaction with the program	3
Dissatisfaction with primary medical care as a potential career	4
Dissatisfaction with the geographic location of the program	1
Dissatisfaction with the local setting of the program	-
Financial reason	-
Other*	1

* Other reason was: "One resident asked to leave due to inadequate preparation for internship duties at . . ."

NB: The specific question asked was: What were some of the reasons given by residents for withdrawing from the program? (Check all that apply.)

Table 33. These reasons, provided by the directors, indicated that most left to pursue other interests, to enter either other residency training programs or some form of practice. These responses revealed no dissatisfaction with the programs or with their settings.

The reasons for residents withdrawing from primary care training programs sponsored by the Foundation were not qualitatively different from the reasons listed in Tables 32 and 33 and are not reported here.

What Residents Expect to be Doing in Five Years

The Resident Questionnaire asked the question, "As a primary care practitioner what would you like to be doing five years from now?" and provision made for an open-ended response. Responses were received from 82 residents in Federally sponsored programs and are reported verbatim in Appendix O. Although the information in Appendix O is voluminous it is also revealing. Combined with the material in Appendices M and N, it provides a good reservoir of anecdotes about the then current status of resident sentiment. Although some responses were pat or flip, others were searching and quite thoughtful. Projecting five years in the future some residents saw themselves as not practicing medicine at all, whereas others would like to serve as physicians in a wide range of situations. There were those who planned to assume responsibility for the care of the disadvantaged and the handicapped, those who planned to work in rural, suburban, urban, or inner-city practices, those who hoped to enter academic medicine, those who planned to enter other subspecialty training, and those who professed the goal of leaving medicine altogether or working as little as possible.

TABLE 33

REASONS FOR LEAVING PRIMARY CARE RESIDENCY TRAINING AS SEEN BY PROGRAM DIRECTORS

Left before finishing or at end of first year		Number of Residents
Left to:	Enter surgery residency	1
	Enter traditional pediatrics residency	1
	Relocate geographically	1
	Enter dermatology residency	1
	Enter straight residency tracks	2
	Enter psychiatry	1
	Enter straight medicine residency	1
	Enter psychiatry	3
	Enter straight medicine residency	1
	Enter private practice	2
	Enter sub-specialty residency elsewhere	1
	Enter training elsewhere	3
Left before finishing or at end of second year		
Left to:	Enter traditional pediatrics residency	1
	Enter ENT residency	1
	Take cardiology fellowship	2
	Personal — decided to leave clinical medicine	1
	Family reasons	1
	To take cardiology fellowships	2
	To take other fellowship	1

How Staff Associated with the Programs Rate the Primary Care Residents

Interviews were conducted during the site visits with staff members associated with the programs faculty, nurses, allied health workers, administrators, and residents in other training programs or tracks in order to understand better how the primary care residents were perceived by those who came into daily contact with them at a professional level. (See Appendix E for a copy of the interview schedule and Appendix J for a description of the sampling procedure and the sample characteristics.) Four questions asked the interviewee to compare the primary care residents to residents in similar straight tracks along the dimensions of clinical skills, psychosocial orientation, interest in clinical research, and knowledge of the science of medicine. Response information is provided in Table 34. A fifth question asked the interviewee to compare the primary care residents with the traditional residents (in the same kind of specialty) as clinicians. Finally, the interviewees were asked whether or not the primary care residents were "different" from the traditional residents.

Clinical Orientation of the Residents

In reply to the question "Are the primary care residents less, equally, or more clinically skilled (than the residents in a similar traditional track (internal medicine or pediatrics were specifically mentioned)?," about three-quarters (74%) of the respondents (N = 110) said the primary care residents were equally skilled in clinical matters. Twelve percent said the primary care residents were more clinically skilled and 12 percent said the primary care residents were less clinically skilled. In general, 86 percent of the staff perceived primary care residents as being more, or at least equally, clinically skilled as residents in other residencies at

TABLE 34

HOW PRIMARY CARE RESIDENTS ARE PERCEIVED BY PROFESSIONAL STAFF ON FOUR QUALITIES

	Federal Programs					Foundation Programs					Combined Programs**				
Professional Qualities	Less	Equal	More	Can't Say	N*	Less	Equal	More	Can't Say	N*	Less	Equal	More	Can't Say	N*
Clinical Skills	12%	74%	12%	3%	110	10%	73%	10%	7%	194	12%	71%	11%	6%	280
Psychosocial orientation	-	26	70	4	114	2	29	64	5	203	2	28	66	5	289
Interest in clinical research	34	58	4	4	102	23	44	6	27	199	26	47	5	22	285
Knowledge of the science of medicine	16	80	1	4	109	9	66	5	20	187	12	68	4	17	273

* Number of respondents.
** Adjusted so that the respondents at Boston City Hospital are counted only once.

NB: The specific question asked was: What difference do you see in the primary medical care residents as contrasted to those in ("straight residencies") at the same level of training in the four areas?

a similar level of training.

Respondents in the Foundation-sponsored programs (N = 194) replied in a similar way to this item. When the samples were combined (N = 280), about 70 percent of the respondents perceived the primary care residents as having clinical skills that were equal to the clinical skills of the traditional residents. Roughly 12 percent perceived the primary care residents as being either less or more clinically skilled, whereas about 6 percent of the respondents would not or could not make a response. The bulk of the people who could not respond ("can't say") were allied health workers who felt it would be presumptous to make a statement.

Psychosocial Orientation of the Residents

To the question "Are the primary care residents less, equally, or more psychosocially oriented?," 70 percent of the respondents said that the primary care residents in Federally sponsored programs were more psychosocially oriented and about one-quarter (26%) said that they were equally psychosocially oriented. None of the respondents perceived the residents as being less psychosocially oriented.

Respondents in the Foundation-sponsored programs responded much the same, with 64 percent, 29 percent, and 2 percent saying that the primary care residents were more, equally, or less psychosocially oriented. When the interviewees were combined (N = 289), the collective perception was that the primary care residents were seen as more psychosocially oriented by 66 percent of the respondents, as equally psychosocially oriented by 28 percent of the respondents, and as less psychosocially oriented by only 2 percent of the respondents.

Interest in Clinical Research of the Residents

The interviewees were asked to rate whether the primary care residents had more, equal, or less interest in clinical research than the residents in other training programs (i.e., in straight medicine or straight pediatrics residencies). As shown in Table 34, 58 percent of the respondents perceived the residents in the Federally sponsored programs as equal to the residents in traditional programs, about one-third of the respondents (34%) saw the primary care residents as less interested in clinical research, and only 4 percent saw the primary care residents as more interested in clinical research.

For the Foundation-sponsored programs, 44 percent of the respondents saw the primary care residents as equal in their interest in clinical research, 23 percent as less interested, and only 6 percent as more interested, than the straight residents. When combined, about one-half (47%) of the respondents perceived the primary care residents as equally, one-fourth (26%) as less, and only one-twentieth (5%) as more interested in clinical research. Although there was some difference between the responses of the interviewees associated with the Federal programs and the interviewees associated with the Foundation programs, the difference tended to disappear when the percentages were computed without the "can't say" responses. It is not clear why the "can't say" percentage was so high for the Foundation programs. It was probably due to an oversampling of nurses and allied health people who indicated, quite frankly, during the interviews that they were not competent to judge the residents on these matters.

Residents' Knowledge of the Science of Medicine

For the primary care residents in the Federal programs, 80 percent of the interviewees perceived them as equal to the residents in straight tracks, 16 percent as less knowledgable, and only 1 percent as more knowledgable.

For the sponsored residents in Foundation programs, the figures were slightly different, and this difference was probably because of the large number of respondents in the "can't say" category. When combined, about two-thirds (68%) of the respondents perceived the primary care residents as equally knowledgable in the science of medicine, 12 percent as less knowledgable, and only 4 percent as more knowledgable.

How Residents Compare as Clinicians

One other question included in the interview schedule asked the respondents to generalize about the primary care residents as clinicians and then to compare them, as a group, with residents in other training programs (internal medicine and pediatrics were usually mentioned as other programs at the local site). The data in Table 35 indicate that for the residents in Federal programs, 75 percent of the respondents saw them as equal clinicians as the traditional residents, 9 percent saw them as not as good, and 13 percent saw them as better. Clearly, almost nine in ten of the respondents saw the primary care residents as equal to or better than the straight residents as clinicians.

Responses for the interviewees in the Foundation-sponsored programs were similar. When combined, 79 percent of those interviewed perceived the primary care residents as either equal or better clinicians as clinicians than the straight residents in the same institutions.

Other Differences Between Primary Care and Straight Residents

Finally, the interview schedule contained an item that asked whether the respondent saw the sponsored residents as "being in any way different" from the

TABLE 35

HOW PRIMARY CARE RESIDENTS ARE PERCEIVED AS CLINICIANS

How Perceived	Foundation Programs N	Foundation Programs Percent	Federal Programs N	Federal Programs Percent	Total* N	Total* Percent
Not as good	18	9%	10	9%	28	10%
Equal	120	60	82	75	182	64
Better	33	17	14	13	42	15
Can't say	29	15	9	4	33	12
Total	200	101%	115	101%	285	101%

*Adjusted so that Boston City Hospital counted only once.

NB: The specific question asked was: To the extent that one can generalize, as clinicians, how do you compare the primary medical care residents with those in (a "straight" residency).

more traditional or straight residents. Of the Federal program respondents, 83 percent (N = 119 interviewed) responded saying that the primary care residents were different from the straight residents. A sequel to this question asked the respondent to state in his or her own words what that perceived difference might be. A space was provided for the interviewer to quote the respondent. These quotations are available in Appendix P.

Seventy-eight percent of the respondents in the Foundation-sponsored programs viewed the primary care residents as "different" in response to the same question. When the responses for both programs were combined, about 80 percent of those interviewed (N = 291) viewed the sponsored residents as being "different."

Patient Population

Fourteen questions in the Basic Program Questionnaire and in the Program Directors Questionnaire (Appendices B and C) solicited information about the characteristics of the patient population. Some characteristics of the patient population are presented in Table 36. Only two programs did not have a patient population specifically enrolled in a service that was operated in conjunction with the primary care residency. Although almost all of the programs could have used more patients, not only for patient revenue, but also for more and more varied learning experiences, Program 5 expressed a need for a decidedly larger number of patients. During the site visit to the program, the complaint was often heard that the quest for patients, especially in the medicine track, was highly competitive with primary care often "losing out."

The only progam with an adequate patient load was the one with approximately 19,000 patients. This was in the institution that had a separate faculty operated teaching and research group practice. As a matter of fact, the

TABLE 36

CHARACTERISTICS OF PATIENT ENROLLMENT

Program	Characteristics				
	Patients Enrolled Specifically in PC Program?	Total Patient Enrollment	Need More Patients?	Hospital Beds Available on Demand?	Average Time on Initial/ Follow-up Visit
1	No	---	More	No	40/20
2	Yes	Not available	More	No	90/30
3	Yes	1300 Adult 700 Peds	More	No	90/30
4	Yes	2,800	More	No	60/30
5	No	---	Many more	No	45/20
6	Yes	19,000	Enough	No	45/15

director of this residency indicated that the number of patients was excessive and attempts were being made to "level off" the number of enrollees.

It would appear that programs with a specifically enrolled patient population were less troubled than those without such a designated population. Although Program 1, like many others, expressed a need for a larger population base, its need would probably have been magnified if it had not been located in and served a large indigent urban population.

There was another unusual feature in Program 1. This was one of the rare instances in which the primary care residents also served in the surgery, psychiatry, and obstetrics/gynecology clinics. In addition, the primary care residents rotated on the wards of these same three services, which included almost 500 beds.

With regard to hospital beds, it appeared that the primary care programs must continue to depend on the traditional clinical departments for hospitalization of patients. Even the departments of medicine and pediatrics did not allocate beds to their primary care counterparts.

As is evident in Table 36 there was a large range in the average amount of time spent with a patient on initial and follow-up visits: from 40 to 90 minutes for initial visits and 15 to 30 minutes for follow-up visits. For all six programs the average times were 61 and 24 minutes for initial and follow-up visits, respectively.

The source of the patient population can be seen in Table 37, which ranks the major sources of patient referrals. Across the board, all programs listed self-referrals as the major sources, these ranged from "off the street" to referrals "by friends."

The competition for patients became more evident on examining the extent to which other clinical departments made referrals to primary care. Only Program 4 ranked it second after self-referrals and this was a program in which the medicine and pediatrics tracks were intimately interwoven with their straight

TABLE 37

RANKS OF THE MAJOR SOURCES OF PATIENT REFERRALS

	Sources of Referrals					
Program	Self Referrals	School Departments	Private Practitioners	Public Agencies	Public Information	Other Hospitals
1	1	--	--	2	--	3
2	1	3	--	--	--	2
3	1	4	--	3	2	5
4	1	2	--	3	--	--
5	1	3	2	--	--	--
6	None of these apply					

counterparts. Program 3, which ranked it fourth, operated its own primary care clinic and obtained its patient population from self-referrals and public information about the program. Program 6, which already had an overabundance of patients, was a well-established faculty group practice that had a solid patient base for a number of years because of its well-established reputation. It is especially noteworthy that referrals of private practitioners were an insignificant source of patients. In only one case were they ranked at all.

Additional characteristics of the patient population can be seen in Table 38, which describes the social class background of patients served by the six programs. Alpert (1975) claimed that the majority of patients served by primary care programs were from low income backgrounds. However, on the basis of this study, that claim must be qualified. The two programs that had the majority of the patients from a lower social class were Program 1, located in an urban inner city area, and Program 4, located on the edge of another urban inner city area. Programs 2 and 6 had their own faculty group practices, which were located on rather attractive university campuses. Another program located in pleasant university surroundings was Program 5. These three programs, 2, 5, and 6, were the only ones that attracted more upper class than lower class patients.

Therefore, Alpert's observations about the socioeconomic background of patients in primary care programs was conditioned by (1) the location of the program and (2) whether or not the program was part of a faculty-operated group practice. Obviously, if the practice is a well-established group and located in a pleasant setting, it draws or attracts a broader range of patients.

As a corollary to the socioeconomic background of patients, the program directors were asked to respond as to the "appropriateness" of the patients, for example, did they represent a broad range of clinical problems and was the number optimal. Although all of the directors responded affirmatively to this question,

TABLE 38

DISTRIBUTION OF THE PATIENT POPULATION BY SOCIAL CLASS

Program	Social Class			Appropriateness of patients
	Upper	Middle	Lower	
1	0%	0%	100%	Yes
2	5%	65%	30%	Yes
3	0%	60%	40%	Yes
4	0%	30%	70%	Yes
5	10%	40%	50%	Yes
6	10%	80%	10%	Yes

individual comments elaborated on that positive response. One director stated that the ". . . major problems in the ambulatory care center were due to the location in a ghetto area. The neighborhood is decaying around the health center resulting in a gradual decrease in population." Another said, "Our program gets good publicity through local agencies and hospital emergency rooms. Also through the visibility of our faculty in the media where we discuss primary health care, how to find a doctor, etc." Problems encountered in another program were caused by the ". . . eligibility system (means test) of the county hospital district which limits the number of patients able to enter the community health centers for ongoing care by residents and attending physicians."

One other director was concerned that "patients followed in-house may not be able to attend the neighborhood health center where house staff practice." And finally, one director noted that "our willingness to be the primary care provider has brought in some good referrals from specialty care areas."

Although the "family" has been the center of family medicine since it began to emerge as a specialty, the non-family medicine primary care disciplines have been slow to accept the family as a unit of care. However, there has been a growing tendency among the proponents of the four C's of primary care for greater focus on the family and this is evident in Table 39. On the average, 35 percent of the patients seen in the primary care programs represented families. The range was from 75 to 10 percent. All the programs except one had a policy of encouraging families to register. There was no discernible reason why this was the case in this one program. Perhaps it might be that it did not specifically enroll patients (Table 36) and that its patients from the lower social classes were taken care of in the county neighborhood health centers, whereas patients from the middle and upper classes came from private hosptials.

Surprisingly, patient records were grouped in only two cases: in Program 3

TABLE 39

CHARACTERISTICS OF FAMILY ENROLLMENT

	Characteristics		
Program	% of Patients Representing Families	Are Families Encouraged to Register?	How Are Patient Records Kept?
1	75%	Yes	Household
2	10%	Yes	Not grouped
3	15%	Yes	Family
4	15%	Yes	Not grouped
5	Cannot say	No	Not grouped
6	61%	Yes	Not grouped

by "family" and in Program 1 by "household." The distinction between family and household was not subtle considering the patient population that Program 1 serves.

Differences and similarities were evident in the patient population of the Federally and Foundation-supported residencies. Both groups of programs did and did not have patients specifically enrolled; no discernible pattern existed in those that did and those that did not. For those that did enroll patients, the total enrollment ranged considerably and, again, no pattern was evident. However, one Foundation-supported program had approximately 24,000 patients enrolled, but expressed a desire for more patients, whereas a Federally supported program with 19,000 patients had more than enough. This was probably a factor of the number of the residents in these two programs; the Foundation-supported one had 43, whereas the one that was Federally supported had eight. Obviously the eight residents had an adequate patient load whereas the 43 may not have had a sufficient number of patients.

Another difference between the two groups of programs was in the availability of beds. None of the Federally supported programs had beds available on demand, whereas four of the Foundation-supported ones did. In examining the data available on the institutions that made beds available on demand, there appeared to be no evident distinguishing features. It might prove beneficial, nevertheless, to examine what types of administrative and interpersonal relations existed between those programs and their departments of pediatrics and medicine.

The range in the average amount of time spent with a patient on an initial and follow-up visit was remarkably similar. For the Federal programs, initial visits ranged from 40 to 90 minutes and follow-up visits from 15 to 30 minutes, whereas in the Foundation residencies, the ranges were from 35 to 90 minutes and 15 to 30 minutes, respectively. For all six of the Federal programs, the average times were 61 and 24 minutes for initial and follow-up visits, respectively, and those of the Foundation, were correspondingly, 60 and 24 minutes.

Differences in the sources of patients were also evident in both groups of programs. Where none of those in the Federal study ranked other clinical departments referrals of prime importance, two in the Foundation study did. Also, four Foundation programs ranked private practitioner referrals as a source, whereas none did in the Federal programs.

The socioeconomic bases of the patient populations in both groups of programs are compared in Table 40. The similarity between the two groups was striking, the only differences that were evident were in individual programs, but again these were minor. No Foundation program had a population base entirely (100 %) from the lower social class, whereas one Federal program did (Program 2, Table 38.) The nearest in similarity was a Foundation-funded residency with 80 percent of its population representing the lower socioeconomic classification and none (0 %) in the upper classification. However, none of the Foundation programs were in a geographic location similar to that of Program 1. The Foundation programs that dealt with a larger middle and upper class population base, like similar Federal ones, had an active faculty group practice or HMO, were not located in a "threatening" neighborhood, or both.

Only one Foundation director believed that the patient population base tended to represent too many secondary/tertiary patients. As a matter of record, individual comments from directors of Foundation programs emphasized a similar theme. One director indicated that the patient population was biased toward people with psychosomatic problems, whereas other directors stated that keen competition for primary care patients was evident in the community.

Finally, the percentage of patients representing family units was larger in the Federal programs (35 %) than that in the Foundation programs (24 %). A similar feature was that most of the programs tended not to group their patient records by family or household unit in spite of the fact that most of them

TABLE 40

DISTRIBUTION OF THE PATIENT POPULATION BY SOCIAL CLASS FEDERAL AND FOUNDATION SUPPORTED PROGRAMS

	Social Class		
Programs	Upper	Middle	Lower
Federal	5%	45%	50%
RWJF	6%	46%	48%

encouraged families to register.

Some generalizations of the findings from both the Federally and Foundation-supported residencies can be made. Clearly, there was a trend for programs to develop their own independent patient population base, but even with this trend, the majority of the programs recognized the need for even a larger pool of patients. The directors noted that the problem will become compounded as the competition for primary care patients in the communities and in the university medical centers increases.

The amount of time devoted to initial patient visits might appear as generous, but the nature of primary care is such that the initial patient visit warrants an extensive medical history and physical examination. These initial and follow-up visits are compared with other medical specialties in a later section.

With the increasing competition for a primary care patient population base, it is not surprising that few patient referrals were made from other medical school departments or from private practitioners in the community. The primary care programs must depend heavily on self-referrals, and these self-referrals will probably become an even more important source as the general public becomes more aware of faculty group practices and HMOs and the availability of primary care services.

The composition of the patient population with respect to socioeconomic background was not a factor of "primary care" but rather where the primary care was provided and by whom. There is no doubt that reputable patient care programs, especially if they were not located in "threatening" neighborhoods, attracted a broad range of patients that was appropriate for the training of residents in primary care. In no way can it be inferred that programs with a predominantly lower socioeconomic patient population base provided care dissimilar to those with a more upper and middle class patient population.

In keeping with the usually accepted definitions of primary care and its component parts, efforts are being made to recruit more family units to the primary care. Again, as the competition for patients increases, greater emphasis will have to be placed on the family unit, as already evident in the findings of this study.

Training Programs

The detailed content of the training programs is not given in this section. Syllabi and daily activities of residents can be obtained from the program directors. This section describes the development of the programs and how each director perceives the primary care track as being different from the straight counterparts in medicine and pediatrics. As in all of the sections a comparison of the Federal and Foundation programs is made and some general findings relevant to all of the primary care residencies are presented.

The oldest program was established in 1970. This program took place in an affiliated university hospital and did not have to be approved by the medical school. It obtained a separate intern matching number in 1972. During 1975 it had ten residency positions available, six in medicine and four in pediatrics with only one applicant per track. During 1976 the identical number of positions were available, again with only one applicant per discipline. Residents selected for the straight programs were encouraged to transfer to a primary care track. This was comparatively easy to do because all of the residencies in the hospital were under the administration of a single director.

Another program which developed out of established residencies in medicine and pediatrics was created in 1971. During that year it was approved by the medical school and accepted its first residents. It did not require official accreditation since it was previously accredited as straight medicine and pediatrics. During 1975 it had 18 applicants for 12 residency positions, and in 1976 it had 12 applicants for eight positions. The program was jointly administered by the departments of pediatrics and medicine and the program director was satisfied with the number of applicants. It did not have a separate intern matching number.

One program, established in 1972, did not gain approval of the medical school until the following year. This institution was cautious in its approach since it had a reputation for operating highly reputable "classic" residencies, especially in internal medicine, and primary care was "suspect." Medical school approval was granted in 1973 and the first group of residents entered that year. Official accreditation was received in 1974. It did not have a separate intern matching number and in 1975 received seven applicants, for its six openings. The program was operated jointly by the departments of medicine and pediatrics and both departments were satisfied in the number and quality of its applicants.

Three programs were established in 1974 as a response to the Federal initiative on non-family medicine primary care residency training. One of these also received approval of its school of medicine in 1974, and its first group of residents began in July 1975. Accreditation was not necessary because the program offered tracks in accredited residencies in medicine and pediatrics. In 1975, it also obtained a separate intern matching number in medicine but not in pediatrics. The director was especially pleased with the number of applicants for the 12 slots in medicine; 76 in 1975, and 74 in 1976. In pediatrics, there were four slots available in 1975, and six in 1976. It was estimated that some 15 applications were received for each of the pediatrics vacancies.

Another 1974 program was also approved by its medical school in 1975. It also accepted its first residents in 1975. In this case, official accreditation was sought and obtained in 1976. A separate matching number was obtained for the medicine tracks in 1974, but none was sought for the pediatrics track. The director was satisfied and pleased with the number of applicants. In medicine there were four slots each in 1975 and 1976, with 29 applicants in 1975 and 13 in 1976. The director could give no reason for the large decrease in applicants in one year. Pediatrics had fourapplicants for four places in 1975, and two applicants for two places in 1976.

Another program established in 1974 was approved by the medical school in the same year. This was the institution where the Federal contract was prepared on an ad hoc basis and which encountered a number of problems in becoming operational including aborting the planned pediatrics track. As previously mentioned, these problems included open hostility by the majority of the medical school faculty, lack of support by the community family practitioners, interdepartmental competition for funds, and the absence of a full-time head of the department of medicine. Questions posed during the site visit to this institution, as well as those related to medical school approval in the questionnaires, indicated that medical school approval of the program was "ambiguous," this was never clarified. This program was accredited in 1976 and did have its own intern-matching number. In 1975 and 1976, it offered two positions in medicine; it had two applicants in 1975 and six applicants in 1976. The program director was dissatisfied with the number and the quality of the applicants.

Table 41 summarizes the number of primary care residency positions available and the number of applications for them. A comparison of the Federal and Foundation residencies is made later in this section.

In combining the pediatrics and medicine tracks in Table 41, the ratio of applicants to available positions was slightly more than three-to-one in 1975, and less than three-to-one in 1976. For both years combined, the ratio of applicants to positions was exactly two-to-one. When the pediatrics and medicine tracks were

TABLE 41

NUMBER OF RESIDENCY POSITIONS AVAILABLE COMPARED TO THE NUMBER OF APPLICANTS FOR MEDICINE AND PEDIATRICS

	Applicants			Positions Available		
Year	Medicine	Pediatrics*	Total	Medicine	Pediatrics*	Total
1975	147	29	176	36	18	54
1976	106	24	130	34	15	49
Subtotal	153	53	206	70	33	103
Total	206			103		

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*Four programs only. One aborted its Pediatrics track, the other did not specifically recruit for Pediatrics.

separated from these totals, the findings were markedly different. In pediatrics in 1975, there were 29 applicants for 18 positions, and in 1976, there were 24 applicants for 15 positions, a less than two-to-one ratio. In medicine in 1975, there were 147 applicants for 36 positions, a better than three-to-one ratio, whereas in 1976, there were 106 applicants for 34 positions for slightly better than a three-to-one ratio. Medicine and pediatrics decreased by five the total number of positions available in 1976, from that in 1975, and the number of applicants for those same years decreased by 46. The decrease in the number of positions available was attributed to two residencies; one program reduced the number by four, the other by one.

In an attempt to determine whether or not goals and objectives were developed, the question was asked whether or not a syllabus or an outline of the content of the residency was developed. Three of the programs had developed syllabi, two did not, but were in the process of doing so, whereas one did not and did not see the need for it. This was the same residency which had no need to develop a set of goals or objectives.

The cooperative nature of developing the syllabi varied considerably. One of the most involved efforts included the director, the program staff, and the departments of medicine and pediatrics. In even a more participatory undertaking, the director, staff, residents, curriculum committee, and the departments of medicine, pediatrics, and community medicine worked on developing the syllabus. The institution where the program director singularly developed the syllabus was the same one that repeatedly is cited in this report as having encountered problems. At one institution, where the syllabus was in the process of being developed, the syllabus was a joint venture of the director and the departments of medicine, pediatrics, and community medicine. In another case the syllabus was being developed by the director without faculty involvement because faculty members ". . . just did not have the time."

A close examination of how the primary care tracks differed from their straight counterparts will now be presented. In the first program, the medicine primary care track included in the first year one month each in the pediatrics, psychiatry, and community health centers; outpatient departments. There also were seminars in community medicine as well as a continuity experience of one-half-day per week. In the second year, three half-days were devoted to work in a community health center, continuation of the community medicine seminars, and pairing of the residents to enable each resident to rotate one month each on the gynecology, otolaryngology, ophthalmology, dermatology, and psychiatry services. The third year differed by extending experiences in the community health centers to three one-half-days, continuing the community medicine seminars, and rotations on the subspecialties. The significant differences between the primary care track and straight medicine were the emphasis on (1) ambulatory care, (2) related subspecialty experiences, (3) health team approach, (4) comprehensive care, and (5) continuity of ambulatory care in the former.

In the pediatrics track differences were also evident. These included in year one, one half-day a week in a community health center and the community medicine seminars. In year two, three half-days were spent in community health centers, the community seminars were continued, rotations on subspecialties just as in the medicine track occurred, and additional electives were available. The third year was similar to the second. The significant differences between the primary care and straight pediatrics tracks were similar to those cited above for medicine.

In another program, differences in the primary care and straight tracks were noted. In medicine in year one, rotations to a neighborhood or some other primary care continuity center were made, pediatric experiences were provided, and a variety of seminars were held. Interaction with pediatrics continued in the second year. There was a block experience in primary care, and work at continuity sites completed that year. Elective opportunities in the third year made primary care medicine different from straight medicine.

In pediatrics, seminars, use of continuity sites, and experiences in medicine differentiated the primary care from the straight tracks in the first year. In year two, there were continuity care experiences, seminars, and a block assignment in primary care. The opportunity for electives was the distinguishing feature of the third year.

The significant differences between the primary care pediatrics and medicine tracks and the straight counterparts were the psychosocial orientation of the program, the neighborhood health center experiences, and the medicine and pediatrics "crossovers."

In the primary care medicine track of still another program, differences from straight medicine included the following: In year one, residents were paired so that two primary care residents filled one hospital slot and the other half of the time was spent in a health center so that continuity of care experiences were available and one month was set aside for a rotation to a primary care health center; in the second year pairing continued and two months were spent on a social medicine elective; and in year three, pairing continued, the social medicine elective was extended to three months, and inpatient experiences were optional. The significant differences in the medicine tracks were (1) the continuity of care experiences with a defined panel of patients in an ambulatory care setting, (2) the interdisciplinary team experience, (3) community-based practice experience, and (4) the social medicine seminars.

In the primary care pediatrics track, similar pairing occurred as in medicine. This allowed the residents to gain health center continuity experiences. In addition, one month was set aside for orientation to primary care pediatrics. In year two, the pairing continued to assure continuity of care experiences and two months were devoted to social medicine experiences. Pairing continued and three months of a social medicine elective rounded out the third year in pediatric primary care programs. The major differences in the pediatrics tracks were identical to those in medicine. In addition, primary care pediatrics programs placed greater stress on child development than did straight pediatrics programs.

Another program also noted differences in its primary care and straight tracks. In primary care medicine in year one there was increased time in ambulatory settings, increased emphasis on exposure to psychosocial and community medicine problems and issues, and a two month elective on a medical subspecialty. In year two the primary care medicine residents had increased time in the ambulatory general medicine/primary care clinic, increased time in ambulatory aspects of some medical subspecialties, and increased time in dealing with psychosocial and community medicine problems. Year three was similar to year two with the exception that there was a six month block of ambulatory time in such surgical subspecialties as office gynecology, orthopedics, otolaryngology, and ophthalmology. The differentiating characteristics of primary care medicine in this program were (1) increased emphasis on the psychosocial aspects of health, (2) increased exposure to surgical subspecialties, and (3) greater concern with the mechanics of the delivery of health care.

In the pediatrics primary care track, during the first year of the residency, ambulatory experiences in a family-oriented clinic were provided, work with a nurse practitioner was encouraged, and residents were available to patients at all times. In the second year, the differences in the primary care track were similar to those in year one with additional time spent in ambulatory care, seminars on family dynamics, and seminars and experiences in community resource settings such as family planning clinics, the public health department, and the like. Year three was essentially similar to year two with the addition of experiences in public school settings.

The features of the primary care pediatrics programs that distinguished it from the straight pediatrics programs were (1) the emphasis on the psychosocial aspects of health, (2) increased time spent in ambulatory medicine, (3) the family unit orientation of all the experiences, and (4) experiences in a variety of community settings.

One other program with a three year residency indicated that a number of features distinguished the primary care track from the medicine track: In year one the ambulatory care experiences in a nonhospital-affiliated clinic, weekly seminars on health care, and experiences in obstetrics-gynecology; in year two, increase in the ambulatory care assignments and weekly seminars; and in year three, added experiences in psychiatry. Several aspects of the primary care residency were considered unique from those in straight medicine. These included (1) the greater amount of time spent in ambulatory care, (2) residents working with nurse practitioners, and (3) seminars on health care services. This program was unable to make its pediatrics track operational.

In another program with tracks in medicine and pediatrics, the first two years were identical to those in straight medicine and pediatrics. The differences occurred in the third year, where the medicine track included continuity electives and primary care experiences in the general medical clinic. In pediatrics, the third year differences were in the amount of time available for electives and the opportunity to practice in a primary care setting. The most telling difference between the primary care and straight residencies was in the continuity experience in the practice of medicine and the emphasis on ambulatory specialty care. In this program, a fourth year in medicine and pediatrics was optional and was similar to the third year except with regard to the specialty assignments.

All of the other programs considered it unlikely that a fourth year would be added to the residency. One director did state that if a fourth year were added, it would be for one resident who would act as a senior chief resident.

Another way to look at the training programs was to examine how individuals who were familiar with them perceived them. As indicated in the section on staffing, a number of individuals were asked about their perception of the primary care teaching staff. During the interviews these same individuals were asked a number of similar questions about the program. Table 42 summarizes the results of these interviews.

As might be expected, or hoped, the Federal primary care residencies were seen to be more (89 percent) outpatient oriented and to provide more (73 percent) outpatient experiences than those in straight medicine and straight pediatrics. The opposite was true in that the straight residencies were perceived as more inpatient oriented and offering more inpatient experiences (63 % and 61 %, respectively.) Also as might be expected, the primary care programs were viewed as more (66 %) psychosocially oriented. There was little difference how individuals viewed the emphasis on the development of clinical skills: Both the straight and primary care tracks were seen as equally (75 %) emphasizing this aspect of training, with 13 percent believing that the primary care residencies placed more emphasis on clinical skills. Conversely, although 65 percent saw equal emphasis placed on the science of medicine, 22 percent believed that the primary care programs were less concerned with this aspect of the training.

A comparison of the data in Table 42 with those in Table 4 yielded a positive correlation between how individuals perceived the Federal primary care programs and the primary care teaching staff. The programs were considered 66 percent more psychosocially oriented and the staff as 62 percent more so, the staff equally or more clinically skilled (85 %), the programs were viewed as equally or more (88 %) concerned with developing clinical skills. Finally, 67 percent saw the programs as placing equal or more emphasis on the science of medicine, and 65

TABLE 42

PERCENT OF INDIVIDUALS WHO PERCEIVE DIFFERENCES IN THE PRIMARY CARE RESIDENCY PROGRAM FROM OTHER RESIDENCY PROGRAMS

	Foundation Programs					Federal Programs					Combined Programs**				
Dimension	Less	Equal	More	Can't Say	N of Resp	Less	Equal	More	Can't Say	N of Resp	Less	Equal	More	Can't Say	N of Resp
Outpatient orientation	2%	16%	79%	3%	186	1%	4%	89%	7%	114	2%	11%	83%	4%	271
Outpatient experiences	6	17	73	5	182	3	17	73	5	114	5	13	78	5	267
Inpatient orientation	56	32	4	8	178	63	28	1	8	111	61	28	3	8	262
Inpatient experiences	56	34	4	6	179	61	30	1	8	110	60	30	3	7	263
Psychosocially oriented	2	21	70	7	180	2	24	66	9	110	2	23	68	8	265
Emphasis on clinical skills	5	67	16	12	184	5	75	13	8	104	5	68	14	13	269
Emphasis on the science of medicine	20	58	4	18	167	22	65	2	11	108	22	59	3	16	249
Number of patients seen	7	55	22	16	178	9	49	35	8	103	8	49	26	16	263

*Adjusted so that the respondents at Boston City Hospital are counted only once.

NB: The specific question asked was: What differences do you see in the primary medical care residency program as contrasted to the ("straight" residency program) in the following areas?

percent viewed the teaching staff as equal or more knowledgeable in this area. It is evident that the programs in many ways were a reflection of how the teaching staff was perceived.

The last item of special interest in Table 42 is in the number of patients seen by primary care and straight residents. The perceptions of the individuals interviewed were in agreement with information that was available during the site visits: The primary care residents saw more patients than their straight colleagues. This was attributed to the more extensive outpatient experiences to which primary care residents were exposed.

In most areas the Federally and the Foundation-sponsored residencies were similar. Both groups of programs began in the early 1970s, with the Foundation taking a lead by about one year followed by the Federal initiative to support non-family medicine primary care.

Most program directors were satisfied with the number and quality of residents, and only rarely did a director indicate dissatisfaction. There was no discernible difference in program directors' perceptions on this point.

In examining Table 43, which compares the number of applicants to the number of positions available, some differences are noted between the Federal and Foundation residencies. The number of applicants to the medicine track in Foundation programs dropped more dramatically (from 348 to 147) than in the Federal ones. No reasons were cited by the directors for the decrease. The large number of applicants for the Foundation residencies (705) compared with the Federal residencies (206) appears to be a factor of the well-established nature of some of the Foundation residencies and their traditional appeal to medical students.

Reasons for the drop from 54 to 49 positions available in the Federal programs, compared with the increase from 32 to 72 in those of the Foundation,

TABLE 43

A COMPARISON OF THE NUMBER OF RESIDENCY POSITIONS AVAILABLE COMPARED TO THE NUMBER OF APPLICANTS FOR MEDICINE AND PEDIATRICS IN THE FEDERAL AND FOUNDATION (RWJF) TRACKING PROGRAMS*

	Applicants						Positions Available					
	Medicine		Pediatrics		Total		Medicine		Pediatrics		Total	
Year	Fed	RWJF	Fed	RWJF	Fed	RWJF	Fed	RWJF	Fed	RWJF	Fed	RWJF
1975	147	348	29	92	176	440	36	38	18	14	54	52
1976	106	147	24	118	130	265	34	51	15	21	49	72
Subtotal	153	495	53	210	206	705	70	89	33	35	103	124

*Only those Foundation supported residencies which offered a separate track in either/or medicine and pediatrics.

were difficult to ascertain. The larger number of applicants for the Foundation pediatric residencies was largely attributable to one institution which, had a traditional appeal to medical students plus the added incentive of being located in an attractive and appealing geographic area. Fewer pediatric positions were available than medicine simply because fewer pediatric residencies were part of this study and pediatrics has always had fewer available slots than medicine.

With regard to the content of the Federally and Foundation-supported programs, the similarities were remarkable. All stressed ambulatory care experiences, encouraged ambulatory subspecialty experiences, provided settings in which the health team was utilized, and utilized nurse practitioners and/or physician assistants. In all of the Federal programs, continuity ambulatory experiences were provided, but this was not the case of the Foundation programs. The reason for this difference was that the Federal contract guidelines specifically required that continuity of care had to be provided, whereas the Foundation did not make this stipulation. One other minor difference was noted, and this difference was more a factor of community resources and institutional commitment than anything else. Federal programs made greater use of urban neighborhood health centers or clinics, whereas the Foundation programs made greater use of rural health centers or clinics.

Finally, a comparison of the kinds of institutions that sponsor the residency training programs is in order. The question of the relative worth of medical institutions, i.e., medical schools, is difficult because it involves the sensitive issue of judging the relative merits of the institutions involved, a judgment for which the basis is moot and may result in resentment or perhaps even lasting harm to the reputation of the institutions so judged.

If medical schools can be reliable ranked from "highest quality" (rank = 1) to "lowest quality" (rank = 95), as was explained above in the section on the

Undergraduate Medical School origins of the residents, then these ranks can be used to test for differences in reputation for quality between groups of "host" institutions. The Cole-Lipton ranks of medical schools that host primary care residency training programs have been grouped into quintiles of 19 schools each and are presented in Table 44 for both the Federal and the Foundation host institutions.

Three things should be mentioned when examining the data in Table 44. First, the program at Boston University is included twice, once for each sponsoring organization; second, the University of Missouri - Kansas City is a new school and thus was not included in the ranking process; and third, the program at Montefiore Hospital was loosely affiliated at the time it was established, but, during the week of the site visit, it made public its increased affiliation with the Albert Einstein College of Medicine and is thus ranked accordingly.

The quintile classification of these host institutions is skewed toward the "quality" end of the spectrum and is not too different for the institutions of the Federal programs versus the institutions of the Foundation programs. A Mann-Whitney test for differences of mean ranks between institutions funded by the two agencies indicates that there is no statistical difference between them. Both funding agencies were able to attract institutions of equivalent reputation for quality to establish training programs, and the institutions in the vanguard of residency training for primary care appear to be of high quality.

In examining the data from all of the programs, some general findings regarding primary care residencies emerge. Whether or not a program had a separate intern matching number appeared to make no difference in the number of individuals who applied for the available positions. What appeared to be important was that the differences between a primary care and a straight option were publicized and known by the applicants. Departments of medicine and pediatrics that did not have separate matching numbers but did make a clear distinction

TABLE 44

DISTRIBUTION OF SUPPORTING MEDICAL SCHOOLS FOR FOUNDATION AND FEDERAL SPONSORED PROGRAMS ACCORDING TO THE COLE-LIPTON SCHEME

Cole-Lipton Quintile		Number of Foundation Programs*	Number of Federal Programs
I	(highest quality)	4	3
II		3	2
III		-	2
IV		1	-
V	(lowest quality)	-	-
	Total	8	7

NB: Mean Cole-Lipton ranks by sponsor:		
	Foundation:	26.1
	Federal:	26.0

Mann-Whitney U-test: Z = -0.06, p = .95.

* One Foundation-sponsored program was in an institution not included in the Cole-Lipton rankings.

between the primary care and straight tracks were competitive with the residencies with separate matching numbers.

In this study repeated references have been made, and will continue to be made, to problems encountered by programs in becoming operational. This is crucial, especially as more primary care programs are developed. Here again, it was evident that training programs obtained medical school and faculty approval if the differences between primary care and straight residencies were clearly understood. The presence of well defined goals and objectives hastened faculty approval of the program. The presence of a syllabus, developed by as many parties as possible who will have a stake in the program, contributed to a better understanding of the content of the primary care residency and to a more rapid and enthusiastic endorsement by the medical school. A case in point in this study was where the director was solely responsible for the development and ultimate rejection of the pediatric track in that institution. As the problems in the training program of this institution became known, the quality of the applicants decreased.

It is clear in this study that the number of applicants far exceeded the number of residency positions available in primary care. The discrepancy was greater in medicine than in pediatrics. It was conceivable that the smaller proportion of applicants to positions available in pediatrics might be that straight pediatrics was seen as more "primary care oriented" than straight medicine. At one site visit, the head of pediatrics announced that the department was slowly withdrawing the primary care track because ". . . the pediatrics primary care track is essentially similar to our straight pediatrics option. Why duplicate them?" Once more this illustrates the need for a clear differentiation between the primary care and straight options. One other finding regarding the applicants is noteworthy. The only director who was dissatisfied with the number and quality of the applicants was the one who headed the program that encountered most of the problems.

Some general features of the primary care programs that distinguish them from straight ones are illustrated in Figure 1. The experiences in ambulatory care, community clinics, and community medicine seminars and experiences were the most distinguishing in both primary care pediatrics and medicine. The "crossover," that is, when pediatrics residents had experiences in medicine and vice versa, was a unique feature but seldom used. It is noteworthy that the pediatrics training programs were more family unit oriented than those in medicine. Beyond the similarities between primary care medicine and pediatrics, it can be seen in Figure 1 that program differences, appropriate to the population served, further differentiated primary care from straight residencies.

Primary care training was usually defined as being highly psychosocially oriented, with greater emphasis placed on outpatient activities and lesser emphasis on inpatient activities, with the residents trained with competence as clinicians, but with a solid background in the science of medicine. This portion of the study demonstrated that the components of the training programs and how they were perceived were in agreement with the usually accepted definitions of primary care. This study further demonstrated that the primary care training programs were different than those in straight medicine and straight pediatrics. The next section supports this finding even more.

Educational and Patient Care Activities

The educational and patient care activities in which the primary care residents engaged were determined by a program's general goals, its specific training objectives, the clinical settings in which the activities occurred, and the philosophical, i. e., primary care, orientation of the director and the teaching and patient care staff. The major clinical activities in which residents engaged varied

FIGURE 1

SOME FEATURES OF PRIMARY CARE RESIDENCIES IN MEDICINE AND PEDIATRICS SUPPORTED BY THE FEDERAL GOVERNMENT AND THE FOUNDATION

PC Medicine	PC Pediatrics
Ambulatory Experiences	Ambulatory Experiences
Community Health Center Clinics	Community Health Center Clinics
Community Medicine Seminars	Community Medicine Seminars
Ambulatory Subspecialties	Child Development
Continuity Ambulatory Experiences	Family Unit Orientation
Health Team Experiences	Health Team Experiences
Community Health Projects	School Health Projects
Working with Nurse Practitioners	Working with Nurse Practitioners

from program to program for the reasons just cited. One program in primary care medicine in the first year required rotations on ward medicine, outpatient services, medical subspecialties, community clinics and special primary care activities. Years two and three were different only in the amount of time spent on those rotations. The pediatrics patient care activities included rotations on ward pediatrics, ambulatory care, nursery, and special primary care activities. Differences in PG 2 and PG 3 were that subspecialties were required in the second and third years, and the newborn rotation was dropped in PG 3.

A comparison between the amount of time spent in certain similar patient care activities by both the primary care and straight residents in this program revealed the following: The primary care residents spent approximately twice the amount of time in ambulatory care (hospital, neighborhood health centers, etc.) than their straight colleagues, and one-third the time in inpatient or ward service. The nonprimary care residents spent approximately one-fourth more time in subspecialty activities, but this was compensated for by providing the primary care residents with special activities.

In one single track program there were no real differences in PG 1. The only difference in PG 2 was that the primary care residents spent twice the amount of time in outpatient services and three times more in PG 3. Also in PG 3, the nonprimary care medicine residents spent approximately one month more on a ward rotation.

In another program, the ward activities in the straight medicine residency exceeded those in the primary care program by about 30 percent, whereas the outpatient care assignment in primary care was twice as extensive. Approximately 50 percent more time was spent by the straight residents in subspecialty work.

The pediatrics residents all spent about the same amount of time on the wards, but as is the pattern throughout this study, the primary care pediatricians spent almost triple the amount of time on the ambulatory services, and one-fourth less time on the specialty services.

Still another two track program differentiated between primary care and straight medicine and pediatrics only in the amount of time spent in PG 3 in general and specialty outpatient clinics. For medicine primary care it was 80 percent, whereas for straight medicine it was 20 percent. In pediatrics primary care 100% of the time was in ambulatory care, whereas the other pediatric residents spent no time on the ambulatory service.

In still another two track program, the pediatric patient care activities were different in the following ways: Primary care residents spent approximately 10% less time on the wards, but about twice the amount of time in ambulatory care, whereas both groups spent an equal amount of time in the nursery and specialty rotations. In medicine the following differences were noted: Approximately 10% less time was spent on the wards, but twice as much time was spent in ambulatory care, whereas the straight residents had one additional rotation in the specialties.

Finally, the last program followed a similar pattern of having the primary care resident spend less time on the wards and more time in ambulatory care. In medicine the primary care residents spent in PG 1, PG 2, and PG 3, 35 percent, 38 percent and 16 percent of their time on the wards, while for the straight residents it was 64 percent, 45 percent, and 45 percent for the same years. The reverse occurred in time spent on ambulatory care during those training years with primary care residents spending 30 percent, 20 percent, and 20 percent of their time and the other residents 20 percent, 10 percent and 10 percent. The primary care residents also dealt with surgical specialty patients, unlike their colleagues.

The differences between the primary care and straight residencies are further highlighted in Table 45. This table is also a good summary of how the primary care residents spent their time during the three years of training. Specific

TABLE 45

MEAN PERCENT OF TIME SPENT DURING THREE YEARS IN PARTICULAR ACTIVITIES BY RESIDENTS IN PRIMARY CARE AND THOSE IN STRAIGHT MEDICINE AND PEDIATRICS IN FEDERALLY SPONSORED PROGRAMS

	Medicine		Pediatrics	
Activity	PMC	Straight	PMC	Straight
Ward Medicine	33%	42%	**	**
Ward Pediatrics	**	0%	31%	35%
Outpatient Services*	24%	14%	22%	18%
Specialties	30%	40%	21%	25%
Nursery (Newborn)	**	**	17%	15%
Special Primary Care Activity	19%	0%	21%	0%
Electives	19%	30%	19%	24%
Community Clinics	19%	0%	21%	0%

*Includes Emergency Room.

**One program requires that all residents in the primary care and straight pediatric tracks obtain experiences in ward medicine. One primary care medicine program requires that residents obtain experience on a pediatric ward. One institution requires that primary care and straight medicine residents rotate through the nursery.

amounts of time spent in a particular activity were not given because in some years the amount of time spent in a particular activitity was insignificant.

In summary, primary care residents had greater exposure to ambulatory care services, community clinics, and special primary care activities. Residents in straight programs had greater exposure to inpatient or ward service and to the specialties. As can be seen in Table 45, two programs had some type of "crossover" enabling pediatric residents to obtain medicine experience and medical residents to obtain pediatric experiences.

To be more specific as to the kinds of specialties the primary care residents were exposed to, Question 31 was included in the Basic Program Questionnaire (Appendix B). Four programs had a required rotation on psychiatry. One required it in all three years in medicine, whereas only in PG 2 in pediatrics. However, the total amount of time on the psychiatric service was about equal for both groups. Another double track program required a psychiatry rotation of the pediatric residents during all three years with an emphasis on child development. The two remaining programs that required a psychiatry rotation included one that provided it to the medical residents in PG 3 and the other to the medical residents in PG 1 and PG 2. The average amount of time spent in a psychiatry rotation, regardless of the training year, was approximately four weeks.

Only three programs had a required rotation in community medicine. Primary care residents in pediatrics and medicine in one program took it for four weeks in all three years. Only the pediatric residents were required to take it for four weeks in each of the three years in another program, whereas it was required only of the medical residents during each of the three years for a total of 38 weeks in another program. Three programs did not require community medicine rotations at all. The issue of psychiatry and community medicine as required rotations is further considered when the Federal programs are compared with the Foundation programs.

An additional way to examine the clinical activities engaged in by the primary care residents is to review the responses to Question 41 of the Program Directors Questionnaire (Appendix D). In this question the directors indicated that primary care residents provided specific patient care services. In all but one program general care to adults and to children was restricted to medicine and pediatrics, respectively. In the one exception pediatrics and medicine residents provided both medical and pediatric general care. In two programs prenatal care was restricted to pediatrics residents and in one program it was restricted to medical residents. Postnatal care was provided by the pediatric residents in the same two programs where they gave prenatal services. None of the residents was involved in deliveries, whereas four programs restricted gynecologic care to the medicine residents, and in two programs both the medicine and pediatric residents provided it. Psychiatric care (e.g., of depression, anxiety,) was provided by the medicine residents in three programs and by both medicine and pediatrics residents in three others. All programs stressed continuity of care, but treatment of entire families was provided only by two medicine programs and one pediatric program. Three programs in medicine and two in pediatrics indicated that minor surgery such as "office orthopedics, E & T, boils, warts, and the like" was performed. In general, the data indicate that the patient services provided were a reflection of the content of the training program.

One of the most distinguishing features of training for primary care was the amount of time spent in ambulatory care as contrasted to inpatient care. Although this study collected considerable information on the patient care activities in which the primary care residents engaged, it would be difficult to identify which were specifically inpatient and which were ambulatory or outpatient activities. Therefore, one question in the study asked the directors to indicate the percentage of time residents devoted to inpatient and outpatient (including ambulatory care in community clinics, in special primary care activities and the like) activities during each year of training. The results of that question are summarized in Figure 2.

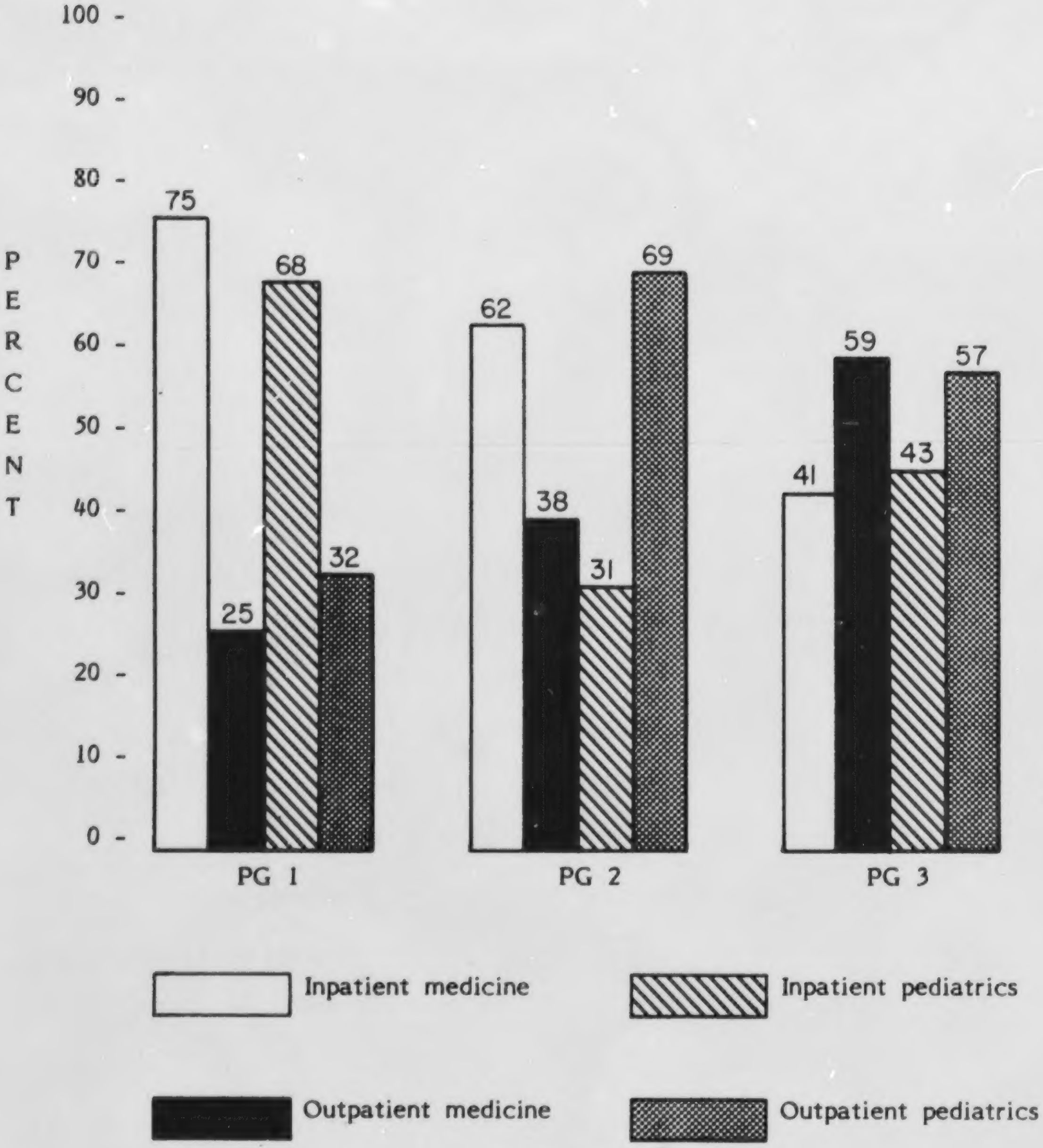
As might be anticipated the first year in medicine and pediatrics was representative of what might be expected during an internship. However, data not included in this figure, but obtained as part of the study, revealed the following: in PG 1 the percentage of time devoted to outpatient activities ranged from 32 to 15 percent and in inpatient activities from 85 to 60 percent in medicine, whereas in pediatrics it ranged from 40 to 20 percent in outpatient activities, and from 80 to 60 percent in inpatient activities. More dramatic ranges were evident in PG 3 in which in medicine the outpatient activities ranged from 75 to 35 percent and inpatient activities from 65 to 25 percent. In pediatrics in PG 3 the outpatient and inpatient activities ranged, respectively, from 100 to 50 percent and 50 to 0 percent.

It is also evident in Figure 2 that pediatrics training in general placed less emphasis on inpatient services and more on outpatient services than did medicine programs. The difference was especially evident in PG 2.

An examination of the data on the amount of time devoted to clinical and nonclinical electives in the primary care residencies proved especially revealing. The returned data in the Basic Program Questionnaire (Appendix B) made it evident that in general little time in the residencies was devoted to electives. This observation was substantiated when the interviews during the site visits made it clear that because the primary care residents had to engage in many more required activities - neighborhood health centers, rotations on psychiatry and community medicine, special primary care activities - they had less time for electives than did the other residents. In fact, the straight medicine and pediatrics residents who were interviewed tended to view the primary care residency program as being more "rigid" and less "flexible" than their own programs.

FIGURE 2

PERCENT OF TIME DEVOTED TO INPATIENT AND OUTPATIENT ACTIVITIES IN PRIMARY CARE MEDICINE AND PEDIATRICS IN THE FEDERALLY FUNDED RESIDENCIES



A look at the clinical electives selected reveals the following: In both inpatient medicine and pediatrics, cardiology was most often elected. In outpatient medicine, cardiology and dermatology were selected and in pediatrics cardiology was the preferred rotation. Other inpatient electives most often selected in medicine included rheumatology and infectious diseases, whereas in outpatient medicine the program elective was office gynecology. Neurology was a popular inpatient elective in the pediatrics programs, whereas child development and orthopedics were often selected on the outpatient service. It is apparent that residents most often chose electives representing specialties that received less attention in the primary care track than in the straight option. With the limited amount of time available for electives, most residents opted for clinical rather than nonclinical electives. Only two programs reported having residents taking formal nonclinical electives. The subjects most often selected were medical ethics, human sexuality, family therapy, nutrition, and medical care organization. Other programs reported that the residents could attend continuing education courses and were given "free time" to attend professional meetings.

Because of the rather prescribed training program, even fewer residents engaged in research. Those who did usually undertook epidemiologic, sociologic, and quality of care studies. One program required that all of the residents engage in some project related to the social aspects of medicine.

Like their counterparts in all other residencies, primary care residents were involved in teaching medical students on their clerkships. This is true in all of the programs studied. If a program included the use of physician assistants or nurse practitioners, residents were also involved in teaching them.

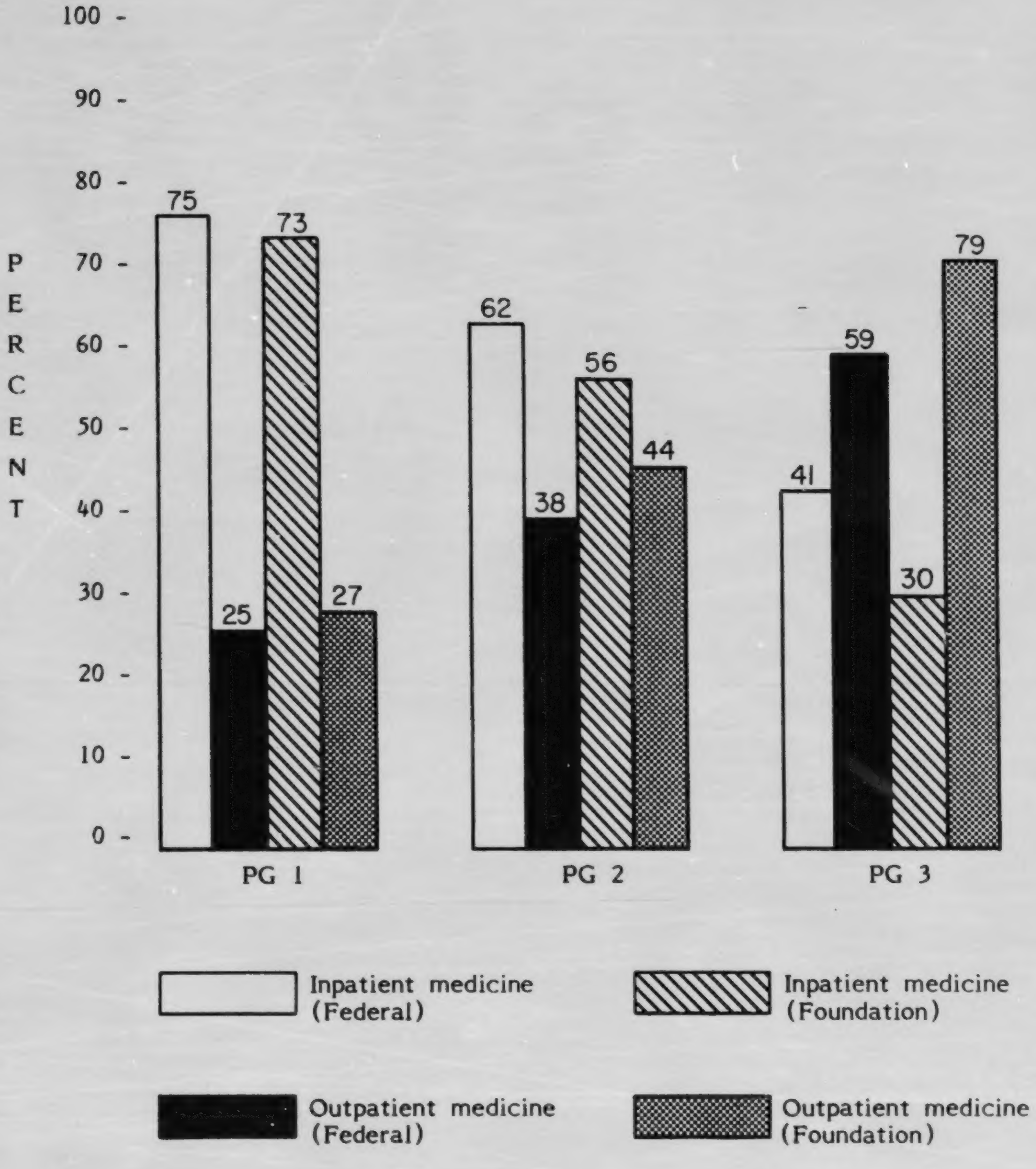
The patient care and educational activities engaged in by the residents in the Federal and Foundation-supported programs were so remarkably similar that to describe them would essentially repeat what has already been presented in this section. Examination of the few differences, however, seems appropriate. In the Foundation programs there was a greater tendency toward requiring rotations in outpatient gynecology and surgical subspecialties. The Federally sponsored programs, in turn, more often required rotations in psychiatry than those of the Foundation. However, in general the institutions with the Federal residencies tended to have more and larger departments of community medicine, thereby possessing more resources available to the primary care residencies. Another difference was the percentage of time devoted to inpatient and outpatient medicine: the primary care and straight residencies in medicine are compared accordingly in Figure 3. Pediatrics is not included because the number of Foundation programs with a pediatrics track was so small.

As is evident in Figure 3, during PG 1 and PG 2 there was little difference in the amount of time spent in outpatient and inpatient activities by both groups of programs. In PG 3, however, the Foundation residents spent more time (70 percent) in outpatient services than did the Federal residents (59 percent), and less time (30 percent) in inpatient work than the Federal residents (41 percent). It is apparent that for the Foundation programs PG 3 was almost a mirror reversal of PG 1, whereas this was not the case in the Federal programs.

Further examination of all of the data revealed no apparent reason for the difference in PG 3 between the two groups of programs. Perhaps it was a matter of program philosophy or availability of clinical resources. As was indicated earlier, the Foundation programs made a significant effort to develop additional teaching affiliations with HMOs and group practices and this might have resulted in more opportunities for outpatient activities. In general, the Federally supported programs required their residents to spend more time in inpatient and less time in outpatient patient care activities than did the Foundation programs. This was the only major difference in the patient care and educational activities of the two groups.

FIGURE 3

PERCENTAGE OF TIME SPENT IN INPATIENT AND OUTPATIENT SERVICES BY FIRST, SECOND, AND THIRD YEAR MEDICINE PRIMARY CARE RESIDENTS IN FEDERAL AND FOUNDATION SUPPORTED RESIDENCIES



From the data on the Federal and Foundation residencies, some patterns emerged that defined the kind of educational and patient care activities in which primary care residents engaged. Primary care residents appeared to be different from other residents because some developed skills related to psychiatry, community medicine, and office gynecology and made use of these skills in the care of patients. The "crossover" from pediatrics to medicine, and *vice versa*, was an interesting training principle that was unique to primary care although not generally encouraged.

Although the primary care residents did spend time in certain medical specialties, the amount of time spent varied from program to program. These differences are evident in Table 46. For example, one program required only 36 weeks in internal medicine in PG 1, whereas another required 50 weeks. Table 46 also shows that in PG 3, pediatrics required more time on its service than medicine. During PG 3 medicine residents spent more time on other services than the pediatricians. When the data were collected for this study, none of the programs offered gynecology, or surgery during PG 2. The question also remains, how much experience did the residents gain on the psychiatric consultation/liaison service or was this included as part of the psychiatry rotation? It is obvious, however, that primary care residencies tried to provide patient care activities that embodied the four C's of primary care and that the patient care activities were appropriately different from those given in the straight residencies.

The most unique characteristic of primary care training programs was the amount of time devoted to outpatient and inpatient activities. Figure 4 compares the medicine and pediatrics primary care residencies included in this study. Overall, pediatrics placed greater emphasis on ambulatory care and less on ward experiences than did medicine. Whether this was a factor of the traditional approach to pediatrics training, including well baby clinics, or a factor of fewer

TABLE 46

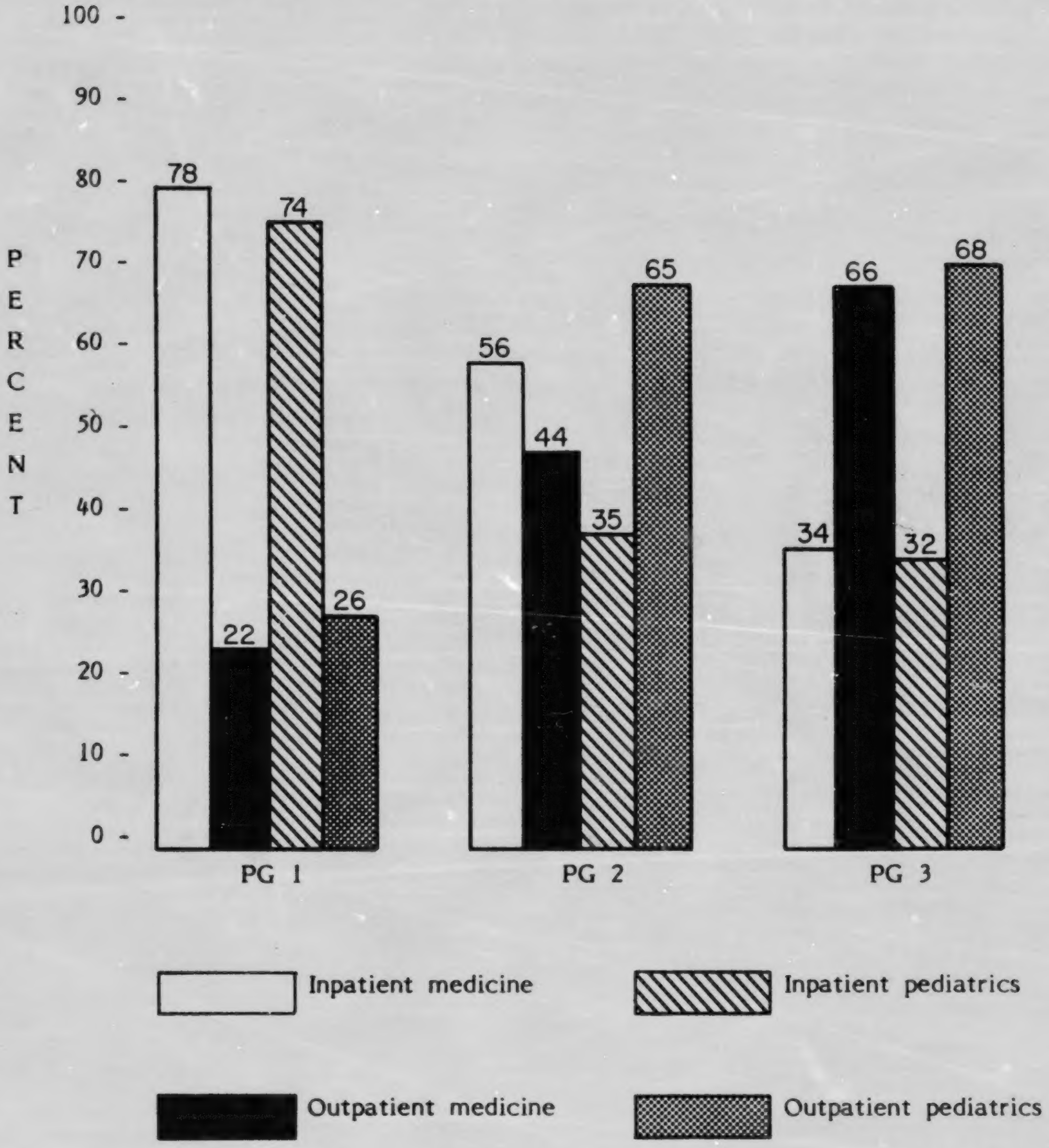
RANGE OF WEEKS DEVOTED TO DESIGNATED ACTIVITIES

	Range of Weeks by Year of Residency		
Activity	PG 1	PG 2	PG 3
Internal medicine	36-50	21-50	12-39
Pediatrics	36-52	22-48	22-52
Gynecology	4*		2-5
Psychiatry	4*	4*	2-5
Surgery	4*		2-10
Community medicine	2-8	2-15	4-15
Other	1-20	4-20	4-20

*Four week rotations only.

FIGURE 4

PERCENT OF TIME DEVOTED TO INPATIENT AND OUTPATIENT ACTIVITIES IN PRIMARY CARE MEDICINE AND PEDIATRICS RESIDENCIES



hospital beds in pediatrics was not determined in this study. However, when the amount of time spent on outpatient activities by the medicine primary care residents included in this study was compared with the data on straight medicine residents reported by Tarlov (Tarlov et al., 1978), the differences between primary care medicine and straight medicine became even more obvious (Figure 5).

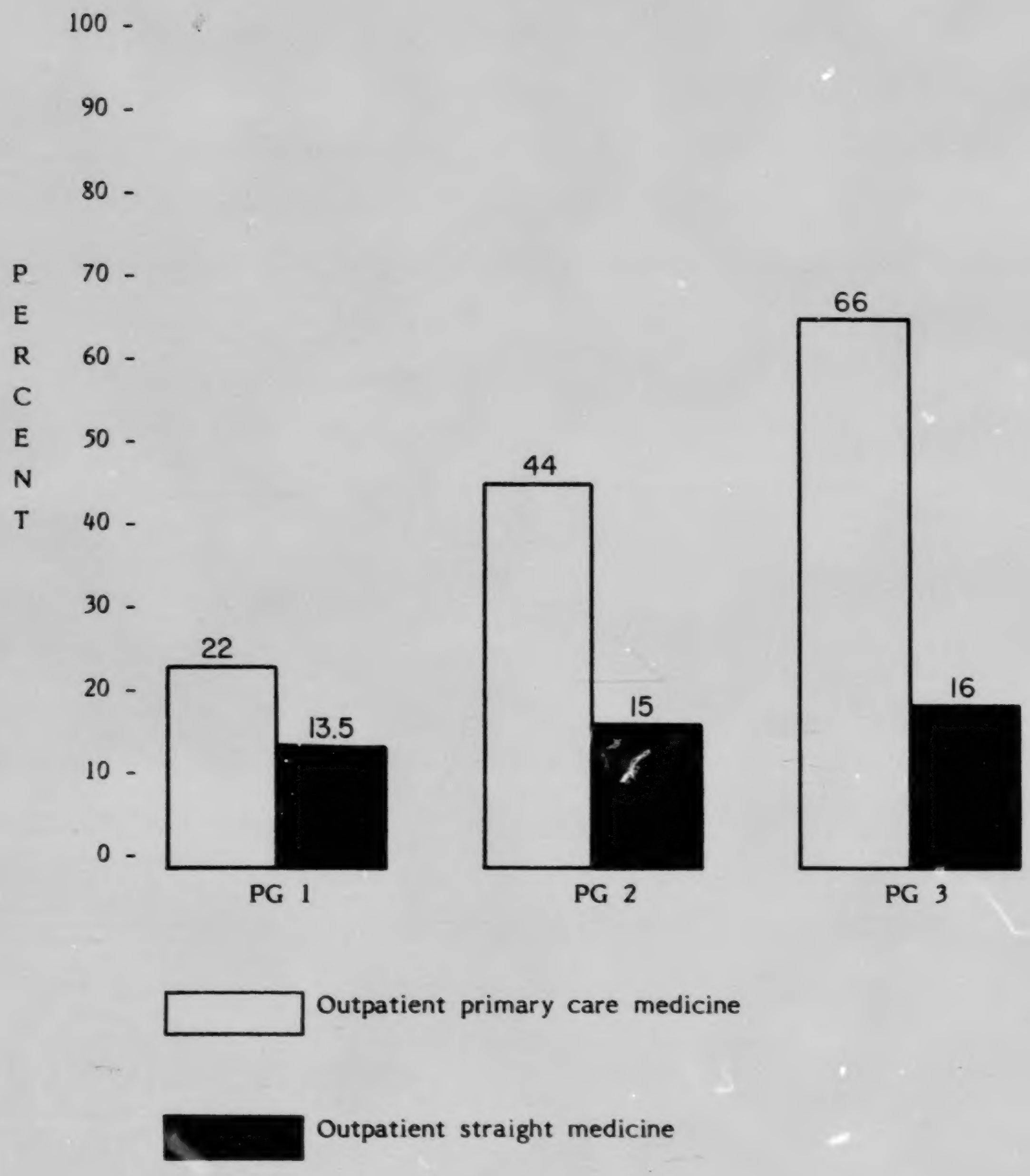
That the primary care programs provided fewer opportunities for electives was an interesting finding. Yet, it is not surprising, considering the number of patient care and educational activities in which these residents must participate in to be competent in primary care. Because the primary care programs spent less time on the subspecialties emphasized in the straight programs, the residents tended to elect clinical subjects in these subspecialties. As seen in Table 47 the subspecialties of cardiology, neurology, and infectious diseases were most often selected, but probably dermatology was the most frequently selected outpatient elective, because most residents realized that they would be dealing with dermatologic problems in their private practice.

Because there was little time in the primary care programs for electives, few residents took nonclinical electives. Those that did, appeared to have taken subjects that would support them in their practice (Table 48). Adult medicine residents took ethics and human sexuality, while pediatrics residents took child development and the family unit. Surprisingly, there was little attention given to the family unit in any of the medicine primary care tracks.

Residents continued to carry the burden of teaching in addition to all of their other activities (Table 49). Because primary care programs emphasized the team approach to patient care, the teaching responsibilities of the residents were extensive. During the site visits this finding was supported by the observation that the primary care residents spent more time teaching than did their colleagues in other residencies.

FIGURE 5

PERCENT OF TIME DEVOTED TO OUTPATIENT ACTIVITIES BY RESIDENTS IN PRIMARY CARE AND STRAIGHT MEDICINE*



*Tarlov, et al., 1978.

TABLE 47

RANK ORDER OF CLINICAL ELECTIVES MOST OFTEN SELECTED BY MEDICINE AND PEDIATRIC RESIDENTS*

Inpatient Electives	Rank	Outpatient Electives	Rank
Medicine			
Cardiology	1	Dermatology	1
Infectious Diseases	2	Rheumatology	2
Rheumatology	3	Cardiology	3
Pulmonary	4	Gynecology	4
Hematology	5	Orthopedics	5
Neurology	5	Neurology	5
Gastrointestinal	6		
Pediatrics			
Cardiology	1	Cardiology	1
Neurology	2	Neurology	2
Infectious Diseases	3	Child Development	3
Child Development	4	Dermatology	4
		Orthopedics	6

*There are practically no differences in the electives selected by the residents in the Foundation supported residencies. A renal inpatient elective appears in some of the Foundation programs as does outpatient hematology and otolaryngology. Outpatient gynecology appears as an elective in one of the Foundation residencies.

TABLE 48

NON-CLINICAL ELECTIVES MOST OFTEN SELECTED BY PRIMARY CARE RESIDENTS

Medicine	Pediatrics
Medical Ethics	Child Development
Human Sexuality	The Family as a Unit
Nutrition	Family Therapy
Health Care Organization	Nutrition
	Health Care Organization

TABLE 49

RANK ORDER OF TEACHING RESPONSIBILITIES OF PRIMARY CARE RESIDENTS

Responsibilities	Rank*
Medical students	1
Nurses (Including nurse practitioners)	2
Other residents	3
Physician assistants	4
Others**	

* Rank is based on the teaching responsibility most often cited by the programs.

** Includes social workers, dental hygienists, clerical staff, and laboratory personnel.

NB: All of the Federal and Foundation directors reported that the primary care residents have some responsibility for teaching medical students.

The results of this section reveal that the primary care residents were exposed to a number of patient care activities, that the time devoted to the activities varied from program to program, that the emphasis of the programs shifted from inpatient to outpatient duties as residents progressed, and that the time for electives was limited with most residents selecting electives in medical subspecialties. Therefore, the training of residents in primary care was, indeed, different from that of residents in traditional medicine and pediatrics programs.

Evaluation

As indicated in an earlier section of this chapter, three programs did not develop a set of specific training objectives and therefore did not evaluate themselves against a set of anticipated program outcomes. Despite the absence of objectives, these three did carry out an "evaluation" using a variety of techniques. Resident performance was assessed in a number of ways. One school made use of written narrative reports submitted by the faculty in addition to having the faculty observe the residents and rate them through the use of a rating scale. Furthermore, this school reviewed the patients' charts and videotapes of the residents' performances while working-up patients.

Another program also made use of faculty reports, rating scales, videotapes of resident-patient interactions, and external examinations, specifically the American Boards in Internal Medicine (ABIM) certifying examination.

Quality of care audit, use of rating scales, narrative faculty reports, external review through ABIM, and peer reviews were used by another program. The peer review entailed having residents assess each other.

Peer reviews were used in still another program. In addition, a quality of care audit, observations by faculty, and narrative reports were carried out. This program not only utilized the ABIM but also the self-evaluation examination of the American College of Physicians.

Two programs that did not develop a set of training objectives exerted less effort to assess the residents. One used patient audits, narrative reports, and observations by faculty members. The other only employed faculty observations, this program was the same institution that stated ". . . . it did not see the need (for objectives.)"

The evaluation of the total residency program took different forms in each of the institutions. One program had a system in which faculty and residents submitted reports on the program at monthly conferences. This program also held periodic retreats of all those participating in the teaching of the residents.

An approach in another program included sending questionnaires to active residents and alumni. The questionnaires attempted to assess the outcomes of the program in terms of what the graduates were doing, that is, the relationship between the program and private practice activities.

A similar approach was used in a third program. Periodic faculty reviews, pre- and postresidency questionnaires, reports on the program from faculty and residents, and long-term follow-up of career patterns comprised the program evaluation.

Faculty reviews, residents' reports and critiques, and discussions with the chief-of-medicine were used in three other programs. One program had a part-time evaluator who utilized questionnaires, narrative reports, and follow-ups of graduates as part of the evaluation.

The Foundation programs tended to use more varied techniques to assess the residents and to evaluate the total program. This was because (1) the Foundation required that each program (except one) be evaluated and provided funds for an evaluator and (2) the Foundation-funded programs were more in developing well-defined training objectives. Thus, while the Federally supported programs used many of the same evaluative techniques, one of the major differences was that those of the Foundation made more extensive use of patient care audits. Several Foundation-funded programs also employed surveys of patient attitudes toward the residents, an approach not reported by any of the Federal programs.

As is the case in so many educational endeavors, evaluation was the weakest component. Although it should be expected that each program might take a different tack in evaluating its residents or program impact because of a difference in training objectives, the reluctance of some programs to define objectives or to see their value was a surprising finding. Perhaps at the time the programs were originally funded there was less emphasis on "accountability," whereas more recently funded programs were, indeed, placing greater stress on evaluation.

The findings clearly indicate that the traditional techniques to evaluate resident performance were used. As can be seen in Table 50, the conventional "narrative" reports and observation of the residents by the faculty were used most often. Surprisingly, the supposedly popular reviewing of patient charts (audits) was not used extensively. Peer reviews and patients' attitudes were also used sparingly. The primary care programs tended to rely on traditional techniques to assess resident performance, but tended to do more to evaluate their programs than the traditional residencies.

TABLE 50

RANK ORDER OF TECHNIQUES MOST OFTEN USED TO EVALUATE RESIDENTS' PERFORMANCE

Technique	Rank
Written narrative reports by faculty	1
Observations by faculty	2
Critiques of video tapes	3
Patient chart audits	4
Use of external examinations	5
Peer reviews	6
Patient attitudes	7

FUNDING

Sources of Funding and of Funding Information

The Foundation study, as initially planned, was to include a study of program funding and finances that would make a genuine contribution to our knowledge of the fiscal aspects of graduate medical education. Thus, an attempt was made to gather data which would provide the basis for some significant statement to be presented about the ways primary care residency training programs are funded. Data on costs and funding would be useful from a policy standpoint and such information could be related to the problems faced by the programs, and to the institutionalization prospects of the programs after Foundation and/or Federal support was withdrawn.

Most of the data on program costs and funding for this study were obtained from the Cost and Funding Questionnaire (Appendix G). Other items related to fiscal matters were placed in both the Program Directors Questionnaire (Appendix D) and the Basic Program Questionnaire (Appendix B). The Cost and Funding Questionnaire included items designed to obtain detailed information on income and expenses in standard form in addition to items designed to obtain qualitative information from the program directors about the major funding trends for their programs. Five Federal and eight Foundation-sponsored programs responded, but the requested detailed breakdown of income and expense was supplied by only seven of the programs, even though the forms supplied were identical to those used by the Federal government for reporting purposes. Then too, even for these seven programs there were large gaps in the information returned. It is not clear why the response was so poor and desultory. Perhaps it was because the forms requested too much detailed information, and thus discouraged the respondents; perhaps it was that the forms required too much to track down and abstract the necessary information; or perhaps it was because the information simply was not available. Other factors may have been operative as well.

Sources of Funding to Set Up Residency Training Programs

Responses of six Federally sponsored programs indicating the sources of funds acquired to set up their programs are given in Table 51. Five of the reporting directors used Federal funds to set up their programs; three reported using hospital funds and three reported using university funds; only one reported using a foundation grant (obviously, Boston City Hospital, which was funded jointly by the Federal government and the Foundation). The pattern of funding sources reported by the Foundation-sponsored programs is different from the pattern of the Federal programs, as might be expected. Foundation-sponsored programs report receiving funds from a wide variety of sources in addition to the sponsoring Foundation. For example, six programs used hospital funds, five programs used university funds, three programs had access to Federal grants, and one program each utilized state money, community contributions, and a private donation to establish their training programs. The funding sources were diverse, and most of the Foundation-sponsored programs report utilizing funds from more than one source.

Table 51 also lists the numbers of funding sources for the two sponsors combined in the interest of completeness. For the primary care training programs as a whole, hospital funds, Federal grants, Foundation grants, and university funds account for the majority of funding sources used to establish training programs in primary care medicine and pediatrics.

The program directors were asked whether or not they would have initiated a primary care residency program at their institution if they had not obtained funds

TABLE 51

NUMBER OF PROGRAMS REPORTING SOURCES OF FUNDS USED TO SET UP PRIMARY CARE PROGRAMS

Source of Funds	Number of Federal Programs*	Number of Foundation Programs**	Number of Combined Programs***
Hospital Funds	3	6	8
Federal Grant(s) or Contract(s)	5	3	7
Foundation Grant	1	7	7
University Funds	3	5	7
Community Contribution(s)	-	1	1
Private Donation	-	1	1
State Grant	-	1	1

*Based on the responses of six programs.
**Based on the responses of eight programs.
***Based on the responses of thirteen programs. The program at Boston City Hospital has been counted only once.

from the Federal government or the Robert Wood Johnson Foundation. For the Federal programs, 4 of the 6 directors who responded to this item indicated that they would have indeed set up a program without Federal funding; 4 of the 7 directors of Foundation-sponsored programs also reported that they would have gone ahead with the program without Foundation help. For the Federal programs, 3 directors said they would not have established their program without Federal help; for the Foundation programs, 2 directors indicated the same.

The program directors were asked, assuming they had no Federal or Foundation funds, how they would have funded the residency program if they had gone on their own. The following responses are reported verbatim:

A) Federal response:

  (1) (Would have used) university dollars.

B) Foundation responses:

  (1) Would have used the same administrative approach, namely, consolidating the internal medicine residency and basing it upon the general comprehensive medicine beds with a continuous panel of patients.

  (2) (Would have used) hospital funds, community primary care settings, and patient fees for services rendered.

  (3) (Would have used) some type of extra-mural support for needed faculty, staff and resident stipends. (The) university would have made modest increases in faculty and stipend support.

  (4) Patient revenue (and) hospital funds.

Some Dollar Amounts Related to Primary Care Training Programs

An estimate of the size of the primary care training programs in terms of "operating costs" for the 1976-77 year can be obtained from the figures given in

Table 52. The range of approximate figures for all reporting programs runs from $72,000 to $900,000. The gross figures reveal little except to indicate the range of dollars spent on primary care residency training during this initial period of activity.

Other dollar amounts returned by the program directors cannot reasonably be used in this report. Due to their small number (unrepresentativeness) and due to their seeming unreliability (it is hard to know what they mean because they were produced through different accounting systems) they would perhaps be more appropriately utilized in a series of case studies.

Some Information on Budget Allocations

The Basic Program Questionnaire provided information on where the programs directors and the program co-directors obtained their salaries. This information is reported in Table 53. Most of the program directors and co-directors received part of their salaries from university and Foundation sources. The salaries from university sources undoubtedly reflect the long-term relationship between the program directors and the host institutions. In most cases the program directors hold tenured positions. This is less often the case with the program co-directors. Their sources of salaries also reflect the diverse sources of funding described above. Multiple sources of income are the rule in primary care residency training programs.

Several programs supplied information on how their budgets were allocated in 1976-77. This is given in Table 54. Little of a general nature can be understood from Table 54 except that there is wide variation between the programs in how they spent their money, particularly for resident stipends. The number of cost centers (e.g., space rental and insurance) for which no budget information was

TABLE 52

PROGRAM COSTS FOR 1976-77 AND 1977-78

Program	Total Cost	Anticipated Cost
Federal		
A	$330,000	$480,000
B	430,000	844,000
C	272,000	Not Available
D	Not Available	417,000
E	129,000	72,000
F	Not Available	Not Available
Foundation		
A	Not Available	$157,000
B	Not Available	194,000
C	197,000	210,000
D	430,000	844,000
E	500,000	550,000
F	513,000	Not Available
G	700,000	750,000
H	906,000	974,000
I	Not Available	Not Available

TABLE 53

NUMBER OF PROGRAM DIRECTORS AND CO-DIRECTORS RECEIVING PARTS OF SALARIES FROM VARIOUS SOURCES*

Source	Federal Programs		Foundation Programs		Programs Combined**	
	Director	Co-Director	Director	Co-Director	Director	Co-Director
University (medical school)	5	2	9	7	13	8
Foundation(s)	2	1	7	5	8	6
Group Practice	-	1	3	3	3	4
Government (Federal) grants or aid	2	1	3	1	5	2
Teaching Hospitals	4	1	2	1	5	1
Private Practice	1	-	1	2	2	2
Government (State) grants or aid	-	-	1	2	1	2
Patient Care Fees	-	-	1	-	1	-

*Program Directors and Co-directors receive their salaries from multiple sources. Numbers indicate aggregate of all sources checked for the programs under each sponsorship.
**Boston City Hospital program counted only once.

TABLE 54

PERCENT OF BUDGET ALLOCATED TO SPECIFIC AREAS FOR FEDERAL AND FOUNDATION PRIMARY CARE PROGRAMS FOR 1976-77

Program	Stipends	Faculty Salaries	Support Staff	Space Rental	Equipment and Supplies	Insurance	Other
Federal							
A	50%	40%	8%	-	1%	-	1%
B	10	36	20	5	3	-	26
C	47	10	15	15	2	1	10
D	51	49	-	-	-	-	-
Foundation							
A	50%	30%	15%	-	4%	1%	-
B	30	30	10	10	......10......		10
C	86	-	-	-	-	14	-
D	45	39	13	-	2	-	1
E	33	45	11	3	4	-	4
F	10	36	20	5	3	-	26
G*	40	30	10	5	5	-	-
H*	10	62	-	8	2	-	23

*Percentages reported do not add up to 100%.

given indicates the complexity of funding and variety of "hidden" sources of funds within universities and hospitals. Each program must obtain money for salaries, space, supplies, and insurance somewhere. For some of the programs these costs are apparently absorbed somewhere in the university or hospital accounting system, but do not show up at the level of program direction or management. Perhaps they are part of the overhead structure and thus do not show up in detail at the line level; perhaps they are one way in which the institution subsidizes new programs; or perhaps they merely reflect inaccurate accounting and reporting systems.

The program directors were also asked to indicate which cost centers had expenses which were either higher or lower than projected. This information is presented in Table 55. Because the responses of the directors of Federally sponsored programs are virtually the same as the responses received from the directors of Foundation-sponsored programs the data have been collapsed. While most program directors indicate that their costs were at or near budget projections, several programs indicated that their expenses in certain cost centers were somewhat, or significantly, higher than projected. The pattern of responses is diffuse, but higher costs than planned were incurred in establishing and maintaining facilities, maintaining and automating patient records, and for insurance for faculty and residents. What is perhaps most impressive about Table 55 is that no program reported costs lower than projected.

Trends in Funding

During the time when these data were being collected it was thought useful to obtain some information which would permit projections to be made about the direction of costs that primary care residency training programs might take. Program directors were asked to identify the direction and the degree of change

TABLE 55

PROGRAM COSTS FOR FEDERAL AND FOUNDATION PROGRAMS AND THEIR RELATIONSHIP TO BUDGET PROJECTIONS PRIOR TO 1976-77*

	Costs Significantly Lower Than Projected	Costs Somewhat Lower Than Projected	Costs Incurred as Projected	Costs Somewhat Higher Than Projected	Costs Significantly Higher Than Projected
Establishing and Maintaining Primary Care Facilities			5	5	2
Maintaining/Automating Patient Records			9	1	2
Malpractice Insurance for Residents and/or Faculty			7	4	1
Instructional Materials and Equipment (AV, etc.)			11	2	
Administrative and Support Staff Salaries			7	5	
Resident Salaries and Fringe Benefits			8	3	
Faculty Salaries			7	4	

*Numbers represent the number of programs checking that option.

which they anticipated for specified cost centers in the three years which follow the reporting year of 1976-77. Since the pattern of responses for the Federal programs was virtually the same as for the Foundation programs the responses, reported in Table 56, have been combined. The majority of the 13 reporting directors foresaw a moderate increase due to inflation over the three year period in the seven specified areas. This was, of course, before the recent period of "double-digit" inflation. Three of the directors saw significant increases in the areas of maintaining and expanding primary care facilities, maintaining and automating patient records, and in the area of administrative and support staff salaries. Two programs anticipated a significant increase in faculty salaries. Some of these anticipated "significant" increases probably reflect plans for program expansion.

Changes in dollar support levels over the short run (for instance, for the year, 1977-78) are indicated for each of the nine reporting programs in Table 57. Three of the program directors saw changes in the form of increased patient revenue and increased federal grants as worth reporting; two directors predicted a decrease in federal grant support and three directors predicted a decrease in Foundation grant support. Others indicated increases or decreases appear to be local in nature and do not indicate any pattern of changes in perceived levels of future funding.

The program directors were asked, "What do you consider some of the potential threats to the financial solvency of the Program (other than potential decreases in general financial support)?" Responses for the reporting programs, Federal and Foundation combined, are presented in Table 58. The directors of two programs with tracking explicitly stated there were no threats to program solvency. Other directors indicated a variety of reasons why continued solvency might be in doubt, with seven directors anticipating problems arising with Medicare reimbursement. Three directors saw decreased patient loads as a threat to

TABLE 56

ANTICIPATED CHANGES IN SPECIFIC COST AREAS DURING THE THREE YEARS AFTER 1976-77*

	Decrease	No Change	Moderate Increase (inflation)	Significant Increase (program expansions/new requirements)
Establishing and Maintaining Primary Care Facilities		1	9	2
Maintaining/automating Patient Records		1	8	3
Malpractice Insurance for Residents and/or Faculty	1	1	10	
Instructional Materials and Equipment (AV, etc.)	1	2	9	
Administrative and Support Staff Salaries		1	9	3
Resident Salaries and Fringe Benefits			9	2
Faculty Salaries			9	1

*Numbers represent the numbers of programs checking that option.

TABLE 57

CHANGES IN DOLLAR SUPPORT LEVELS BETWEEN 1976-77 AND 1977-78 AS SEEN BY PROGRAM DIRECTORS

Program	Source		Change	
A	Patient revenue		Increase	
B	Patient revenue		Increase	
		Federal grant		Decrease
C	Affiliated hospitals		Increase	
D	Federal grant		Increase	
	Private practice		Increase	
	Research grants		Increase	
		Foundation grant		Decrease
		Hospital support		Decrease
		State capitation		Decrease
E	Federal grant		Increase	
		Foundation grant		Decrease
F	University		Increase	
	Federal grant		Increase	
	Patient revenue		Increase	
	Faculty practice		Increase	
		Foundation grant		Decrease
		Teaching subsidy		Decrease
G	DHEW		Increase	
	Affiliated Hospitals		Increase	
H	Hospital and University		Increase	
	State		Increase	
		Federal		Decrease
I	Department of Medicine		Increase	
		School of Medicine		Decrease

TABLE 58

NUMBER OF PROGRAMS SEEING POTENTIAL THREATS TO PROGRAM SOLVENCY IN SPECIFIC AREAS

Area of Concern	Number of Programs
Medicare and Medicare reimbursement	7
Ambulatory care	7
Hospital care	4
Increased resident stipends	1
Malpractice insurance	1
Decreased patient loads	3
Increased consultant costs	0
Other	
"Grant support—Federal"	1
"Some loss of efficency in patient care/decreased volume due to teaching demands"	1

NB: Two programs with tracking indicated that they saw no threat.

program solvency. A program director of one of the smaller programs who indicated concern over the withdrawal of Federal funds noted that "long-term support is very problematical" elsewhere in his protocol. The director of one program saw increased resident stipends and malpractice insurance as potential threats to solvency.

Finally, two items in the Cost and Funding Questionnaire were designed to obtain information on the trends in funding prior to 1976-77 and after 1976-77 by specifically mentioning two sources of possible funds and providing the opportunity for respondents to supply "other" sources, if there were other sources of funds. No one responded to the latter opportunity, so it can be assumed that the ten specifically mentioned sources of funds exhaust the funding possibilities for primary care residency training programs during the period covered. Twelve program directors responded in the manner indicated in Table 59.

With 1976-77 as the watershed year, two directors saw decreasing support from "private foundations" as a trend before 1976-77 and eight directors saw decreasing "private foundation" support after 1976-77. Seven directors saw increasing Federal funding after 1976-77. Most indicated that state grants other than for primary care, community contributions, faculty practice plans, affiliated hospital funds, and university funds were not applicable to the classification of funding trends. Six directors foresaw increased funding coming from primary care program patient care revenue. Associated with this trend is the trend toward obtaining increased funds from hospitals and affiliated hospitals. The other trends indicated in Table 59 fall into no particular pattern and are perhaps the product of local forces.

TABLE 59

NUMBER OF PROGRAMS INDICATING TRENDS IN FUNDING OF PRIMARY CARE TRAINING AT 14 SITES PRIOR TO 1976-77 AND AFTER 1976-77*

	Proportion of Program Budget								Not Applicable	
	Increasing		Constant		Decreasing		Fluctuating			
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
a. PC program patient care revenue (including all third party reimbursement)	5	6					2	1	4	4
b. State government grants (earmarked for PCR program through hospital, medical school, or other)							2	2	9	9
c. Federal grant for training in PC	3	6			4	4	1		4	2
d. Other Federal grants	1	1							9	9
e. Community contributions (individuals or organizations)					1	1	1		9	10
f. Private foundations	3		4		2	8			2	2
g. Faculty practice plan	2	1						1	9	8
h. Hospital funds (excluding sources cited above)	3	4	2	2	3	3	1		2	2
i. Affiliated hospital funds	6	4	1	1					5	5
j. University funds (excluding sources cited above)	2	3	2	1	2	1	1		5	6
k. Other										

*Numbers under pre- and post-1976-77 indicate how many respondents checked each column.

Institutionalization

Although "institutionalization" is an awkward word to describe the process by which an educational or patient care activity or program, originally begun on an experimental basis, eventually becomes a bona fide and established program, it has become a generally accepted term in academia. There is little in the literature on the process of institutionalization in medical education but two studies (Thompson, 1965; Clark, 1968) examined this process in relation to higher education. Because the Federal funds to support these primary care residencies were considered "seed money" with the anticipation that the institutions receiving the funds would establish them as permanent ongoing ones, this study gathered data on the process of "institutionalization" of each of the programs.

Each program developed at a different rate because of a number of forces. One institution frankly admitted that the program was started because of two reasons, one philosophic, and the other pragmatic. The philosophic reason was that the institution had long held a deep sense of social responsibility to the citizens of the community, and training primary care physicians was one way to meet that social responsibility. The pragmatic reason was that the state government announced that funds would be available to those schools training primary care physicians. It was an opportunity to obtain additional training funds which were needed and could be put to good use.

In another program the reason for becoming involved in primary care was based entirely on a social commitment. This institution had provided extensive services to the surrounding community over a long period, and primary care was a logical extension of that service.

The availability of Federal funds was the only reason still another program began. The dean of this institution conceded that there was a need to develop a stronger ambulatory care service, but if funds had not been available for the development of primary care, institutional funds would not have been allocated to develop that service.

One other institution with a commitment to its surrounding community began its program because it saw the need to train physicians to provide the special care that was characterized by primary care. The program was also a way to provide jobs in the health field for a number of unemployed persons in the surrounding community.

In another institution the program evolved after conducting research on health care services. The research clearly indicated that gaps in the delivery of health could be filled to some extent by a primary care program. A modest program was begun to determine how best to proceed.

At another institution, the only reason the program was started was the availability of Federal funds. This is the program which received little if any colleague or community support and encountered repeated problems in getting underway.

Although there were these general reasons for starting the programs, often there was a strong identifiable force to support and continue it. In one case it was still attributed to the institution's social commitment, but in four of the others one individual was the driving force. The deans and vice presidents interviewed best summarized these individuals as " . . . good leaders, creative, interested in what they were doing." The exception was, again, the institution that encountered most of the problems: Initially there was no one to shepherd it through the faculty or community with the dedication it required.

This last institution has been cited on other occasions in this study as having encountered the most difficulty. What occurred with the initial lack of leadership is important to note. First of all both the departments of pediatrics and medicine were split on the relative merits of training for primary care. Furthermore, it was said that such a new program would drain resources from regular programs. The difficulties were compounded because the family medicine practitioners in the community saw a new primary care program as a threat. Because there was no one really dedicated and committed to the program, the opposition did not receive suitable responses to their concerns and support was lacking.

In general, if there was assurance that the primary care program would not encroach on existing programs, there was support. If there was added support from the departments of pediatrics and medicine, then success was assured. However, the support of involved and uninvolved parties came about only when there was a clear understanding of what was involved in primary care. One program director in particular had to spend a great deal of time in convincing individuals with a scholarly disinterest in primary care that they should not equate it with family medicine, as they did, and that there was a need for better ambulatory care and for a role model to provide that care. With this kind of leadership and dialogue, primary care slowly won acceptance.

The presence of a strong identifiable leader cannot be overemphasized as responsible for opening the way, countering resistance, and moving the successful programs forward. The comments of the deans to the question, "If you could attribute the success of the program to one cause, what would be that cause?" brings into perspective the influence of leadership. One dean said: "(name) made it work, he was the focal point, he managed to get the department of medicine behind it." Another said: ". . . the driving force was (name), he is a superb coordinator, on top of all that, he is a great innovator." A combination of individuals provided the leadership in one program. According to the dean: "The heads of the departments of medicine and community medicine, with the program director, made all of this a reality." Another said: "(name), he had enthusiasm, energy, and most of all he was creative." The program that encountered the most problems initially, after a time had a director to whom the dean attributed: "The program was finally saved by (name), this is a most remarkable person, we have at least saved part of the program through the efforts of this individual."

Only one institution did not identify any individual as being responsible for the success of the program. The respondent said: ". . . the way this program was set-up made it a success, its control was not in the hands of the established clinical departments, furthermore, the way the program was set-up and the careful selection of rewards and offering an exciting place to learn primary care enhanced its success." It is obvious that this could not have come about without someone setting up the program. Good sound leadership, without the leader being identified, played a critical role.

Even with the presence of leadership and sound organization, some programs did encounter, and continued to encounter but on a lesser scale, some opposition in the move toward institutionalization. Usually, it was the subspecialties that questioned the intellectual rigor of primary care, but once it was demonstrated that the residents and teaching staff were competitive with their peers the acceptance, although grudgingly, was given. This was the case with one department of medicine that eventually came about to support the program once it saw its value as a co-equal in providing health services. Again, these changes in attitudes would not have come about unless the primary care program had had leadership and support from the key clinical departments of the medical school and hospital.

Although strong social forces and sound leadership were important factors in starting the primary care residencies, the question as to whether these programs would have become realities or not if Federal funds had not been available remains.

Three programs most likely would not have started without Federal funds. In one case an administrative decision was reached that none of the existing residencies would be expanded because of limited institutional funds, the only way that any kind of primary care residency would be developed would be if the institution was "forced" into it by some "board" or state regulatory agency. The availability of Federal funds permitted the development of the program without any internal squabbles about the allocation of limited resources.

The same situation existed at another institution. Before Federal funds were available, a proposal was submitted to the faculty to develop a primary care residency, but there was so much internal opposition to it that the proposal was withdrawn. When Federal support became available, the opposition diminished and the program became a reality. As the dean of this institution said, "It is a conscience money program, without Federal funds we would not offer a primary care residency."

In the case of the institution that encountered the greatest number of problems, it was only the availability of Federal funds that made the program a reality. If Federal funds had not been available, the family practice residency would have grown and taken over all of the primary care activities of the institution. The administration, however, sought to explore alternatives to family practice and the Federal subsidy made it possible to test primary care internal medicine as that alternative.

The institutions that indicated that they would have developed their programs without Federal support stated, however, that the programs might have been compromised. In one case state funds were available, but the trend to limit taxes and state funding of new programs would have caused some serious problems. The program would have been abridged and not of the same quality.

The remaining two programs also indicated they would have moved on, but with serious reservations about their success. In one case the administration would have started "something" in primary care, but what it would have been was not known. It would probably have been quite different from the program now in existence with Federal support. And the remaining program would have had to curtail some of its program activities, but the institution was committed to primary care and the program was already on its way.

All of the programs were committed to continuing once Federal funds were no longer available, but in some modifications were anticipated. In three cases the effort was made to stabilize them. In one case, because the program had encountered some problems, the dean did not "want to rock the boat." The program had only minimal support from the institution and the dean wanted to continue to provide only that amount of support. In another case in which the program was stabilized, it was planned that the primary care activities would become part of the regular internal medicine and pediatrics residencies and the separate track would be discontinued. Another program will go on just as it is.

Two programs planned to reduce their size when Federal funds stopped. One planned to decrease the number of house staff and convert the primary care track to straight internal medicine and pediatrics: Without Federal dollars this institution would not be able to support a separate primary care track. Another program planned to scale down its operation. Finally, one program planned to increase its operations by making primary care more prominent as a training program.

Allied with the issue of continuing the programs without Federal support was the matter of what funds would be used to continue the activities at the present or reduced scale. One program planned to have the hospital increase its share of support, seek private funds, and to obtain additional municipal budgetary support. Another planned to obtain funds from the hospital, another from the state, and still another from the hospital and the state; one planned to increase patient fees while obtaining token support from the medical school. The program that would decrease in size had no sources to turn to and, therefore, would reduce the size of its house staff.

The influence of the dean or the vice president for medical (health) affairs was quite obvious in the institutionalization of all the programs. On the matter of increasing, decreasing, or stabilizing programs, the deans emerged as quite influential. They worked alone or in concert with the heads of medicine and pediatrics in making most of the policy decisions that affected primary care. The deans were extremely sensitive to the competition for the limited funds available especially in a time of inflation and with steady-state budgets. In two institutions with well known departments of medicine, the deans tried to keep out of departmental issues and intervened only if stalemates occurred or the heads of the departments believed that the issues were so critical that they required intervention by the dean.

All of the Federal programs except one planned to continue (be institutionalized) when Federal funds ceased. The reasons for achieving institutionalization were numerous, but it was apparent that if the program (1) had won acceptance, (2) had a dynamic leader, and (3) was supported by the dean and heads of the departments of pediatrics and medicine, its institutionalization was assured.

It was difficult to compare the Federal and the Foundation programs on the issue of institutionalization. Each program in each group provided a case study with similarities and dissimilarities. Generally, what was said of the Federal programs could be said of those supported by the Foundation. For example, one Federal program said it would decrease in size, as did one Foundation program.

One Federal program had a strong commitment to the community, as did one of the Foundation programs. Three Federal and three Foundation programs planned to stabilize. The deans and heads of the departments of medicine and pediatrics emerged as powerful decision makers in all of the programs. Finally, two Federal and two Foundation programs would not have started without funds from these agencies.

On the issue of institutionalization, the important findings did not so much relate to what could be said about either the Federal or the Foundation programs, but to what could be said about primary care programs in general. There was a notable reluctance to establish primary care residencies. Many departments of medicine and pediatrics believed that their straight programs were producing individuals capable of providing patient care services under the rubric of primary care. However, a movement to train more physicians to provide primary care slowly gained momentum so that most institutions found it difficult to go against this trend. The movement was generated by a number of factors that became so influential that the programs were assured not only of eventual success but also of eventual institutionalization.

The findings clearly indicate that certain factors or "things" were present to enable programs to become institutionalized. First of all, unless institutions were willing to reorder their priorities at a time when funds were limited, new programs, such as primary care, had to obtain extramural funding to succeed. Without external funds only the rare program would have become a reality.

Funding by itself was not enough. The programs potential for acceptance and institutionalization was enhanced when the deans gave it visible support, either verbally or with the assignment of some specific resources. The potential for institutionalization was further increased when the dean's support was matched by either one of the heads of the departments of medicine and pediatrics or by both of them. With this joint support, the opposition to primary care was slowly stifled and not as obvious.

Strong administrative support and extramural funding were a combination that assured program success. However, if a program lacked leadership or visible quality, administrative and financial support alone could not have sustained it. Almost all of the primary care programs had strong leadership initially, or at a later stage, that was recognized by colleagues and had a high regard for quality. In combination, all of these ingredients - funds, administrative support, leadership, and quality - and strong social forces promoting primary care resulted in eventual institutionalization.

Footnote

1. Due to a clerical error Cole and Lipton omitted the University of Southern California medical school from their questionnaires. As a result, only 94 medical schools were actually ranked by the respondents. However, using regression techniques Cole and Lipton estimate that the University of Southern California would rank about 30th among the institutions ranked. The omission and inclusion is both problematic and moot. We have chosen to include Southern California at the 30th rank because it makes no difference. There were no primary care residents who attended Southern California and the ranking methods used for statistical testing in this study make the inclusion of Southern California irrelevant. In addition, while inclusion of Southern California does no harm to the design, the calculations, or the findings, it does contribute to the elegance of forming quintiles of equal size, each encompassing 19 schools.

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CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

By combining data on the Federally and Foundation-supported programs, this study is the most definitive to date on primary care residency training. From such a wealth of information, there was a strong urge to reach a large number of conclusions and make multiple recommendations, but this urge has been curbed. However, a number of significant findings make certain conclusions inevitable, and only those conclusions will be made in this chapter. The reader is encouraged to interpret the results independently, but is cautioned to avoid generalizations because each of the programs had unique characteristics that have not been reported. The investigators were privy to material and information of a personal and confidential nature that they agreed not to publish, but which provided additional insights into the peculiarities of each of the programs.

The conclusions are based on data obtained from both the Federal and Foundation residencies. Comparison will not be made between these two groups of programs because these have already been made in the chapter dealing with the results. What makes this Federal report significant is that its conclusions are based on a larger number of cases (programs) than was available for the report to the Foundation.

In the report to the Foundation, it was indicated that at times studies of medical education classify medical schools into categories that enable investigators to make conclusions on the basis of a valid and representative sample. The categories most medical educators agree on are the following: schools that are part of (1) a state university located in a high density population area, (2) a state university located in a low(er) density population area, (3) a private university in a high density population area, and (4) a private university in a low(er) density population area. Minor variations of this categorization have been used in several national studies (Rosinski and Miller, 1962; Jason, 1962; Rosinski, 1965.) Although it was never the intention of the Federal agency or the Foundation to support programs according to some sample, by coincidence all of the programs in this study fell into one of the four categories just cited.

The conclusions in this chapter are separated into the same sections as they were in the preceding one. Because of the number of programs in this study and because the programs appear to represent a sample of medical education institutions in the United States, the conclusions have implications for graduate medical education as a whole.

Problems

Primary care has a problem of "image" when contrasted to the traditional residencies in medicine, pediatrics, surgery, and the like. This problem of image has its roots in philosophic differences in such issues as who is most capable of providing primary care and in what differentiates residency training in primary care from that of the traditional residencies. The image problem is further compounded by the argument that primary care residency training is an amalgam of other programs but lacks the "scientific rigor" of the traditional ones.

The image problem is an internal one where these programs have been placed into operation. There is little doubt that the public in general is most supportive of primary care as are Federal and state officials and political leaders who are encouraging its expansion. The issue of image arises among colleagues whose academic background requires them to scrutinize any innovation in medical education. Some of this scrutiny is motivated by a desire to protect vested interests, especially in a time of steady-state budgets, but most often it is an honest questioning of the relative merits of a program and its ultimate impact on the provision of health services. A number of currently accepted medical specialties went through this same critical review - and opposition - as they emerged and tried to enter the mainstream of medical education.

It is evident from this study that problems such as image that are associated with implementing and continuing a residency in primary care can be reduced appreciably if several conditions are present.

> *First. A complete plan of the program should be developed in as much detail as possible. The plan should emphasize those parts of the program that are distinctly different from anything else currently being offered in other residencies. Conflicts arise most often when a plan is lacking because individuals cannot see what makes primary care residency training different from existing programs.*
>
> *Second. As many colleagues as possible should be involved in the development of the residency training plan. If the program is to depend on the cooperation of several clinical departments, as many individuals as possible from those departments should be involved. A basic premise of curriculum development should be applied, namely, involvement or participatory planning.*
>
> *Third. In addition to colleague involvement, community participation is important, especially if community resources are to be used in the residency training. This is true of any private practitioner group in the community that might have a direct or indirect stake in the residency. Programs have been aborted or drastically modified because they failed to involve crucially important leaders of the community.*

Fourth. Someone should be appointed immediately to develop the program plan and be responsible for it when it becomes operational. The success of the program will be enhanced if that individual has professional credibility and is accepted by colleagues. Preferably, this person should be someone with a tenured faculty appointment who can devote the necessary time to the program without concern about achieving tenure.

Fifth. The dean must be fully aware of what the program involves and support it, at a minimum, it should be verbal support but wherever possible should provide some token support of space, staff, and/or funds. Furthermore, the dean's position on the program should be made known and at every opportunity publicly stated, especially during the planning stage.

Sixth. As the support of the dean is critical to program success, so is that of the departments of medicine and pediatrics, especially if these two departments are to participate in the residency. Departmental support will be more easily obtained if members of those departments are involved at the planning stage. The heads of these departments must also endorse the program and verbally support it wherever possible. The heads of these and other clinical departments will be in a better position to offer their support if a clear plan is available so that they can see the distinguishing characteristic of primary care from other residencies.

Seventh. Quality residents must be attracted. If it can be demonstrated that the primary care residents can compete on equal terms with their colleagues in straight pediatrics and medicine, the image of the program will be markedly enhanced. Furthermore, with outstanding residents the quality of care provided will become evident.

Eighth. Recruitment of quality staff is a corollary to attracting quality residents. Again, staff members should be individuals who can compete *with their colleagues in medicine and pediatrics; they should have recognized and established credentials. Quality residents and quality staff can be an unbeatable combination.*

Ninth. Some seed money should be obtained to assure the start of the program. At a time of steady-state budgets and inflation, funds may be so limited that existing programs cannot be continued at current levels. If it can be demonstrated that some extramural funds will be obtained and that existing programs will not appreciably be affected, the chance of departmental and colleague support will increase.

It is clear that the Federal government will continue to be involved in the support of medical education as our national priorities change or are reordered.

Finally. It might be prudent for Federal funding agencies in the future first to fund only one year planning grants. These grants might stipulate that if any program is to obtain Federal consideration for funding, it must demonstrate that at least the nine issues just cited have been addressed. Furthermore, evidence of this accomplishment must be evident and verifiable, preferably through site visits and appropriate documentation. If an institution can demonstrate that all planning components are in place and have the support of the critical parties, then funds for program operation might be committed. This study has demonstrated that many problems encountered in starting primary care residencies could have been avoided if better planning had taken place.

Objectives

The lack of defined goals and objectives was at the core of many of the problems. Absence of specific objectives in some programs was especially disturbing because program planners and medical educators have stressed their importance for many years. It is difficult to make an objective evaluation without well-defined objectives, yet all of the programs in this study were committed to some sort of evaluation, either of the residents or of the total effort.

> *First. It is evident that there is a need for all programs, especially beginning programs in primary care, to formulate goals and objectives. Several benefits are quickly realized through their formulation. For one thing, specific and enumerated objectives could be instrumental in reducing the arguments that often arise when starting a primary care residency. The arguments become especially heated when there is little understanding of what primary care is all about. With defined objectives, more rational comparisons can be made between content of primary care and straight residencies. A question often asked by critics of primary care "What makes it different from straight medicine (pediatrics?,)" could be answered if the characteristics that distinguish primary care from the traditional residencies were clearly understood. Furthermore, with the presence of well defined objectives the arguments about the relative merits of one approach over another in the provision of primary care services could be more objective and less subjective.*
>
> *Another benefit in formulating objectives is that the process could provide an opportunity for a number of individuals to become involved in program planning, individuals who will have a stake in its success or failure. This report has indicated that on a number of occasions there was an absence of colleague support at the critical time when problems were encountered. Participation in the formulation of goals and objectives can be instrumental in developing the colleague support and commitment which is so essential to program success. Indeed, any arrangement that reduces*

tension among colleagues should be pursued vigorously.

Still another benefit is that specific objectives can facilitate the evaluation of program outcomes. At a time when the assessment of "outcomes" or "impact" is receiving increased attention, it is axiomatic that evaluation be based on well conceived and well written objectives. Funding agencies should stipulate that objectives be specified in detail, not only for the purpose of evaluation, but also to provide a clear understanding of what the program is all about. Ex post facto objectives should not be accepted. With greater accountability being required by policy makers and legislators, specific and detailed objectives should be required of any program seeking support from public funds.

Second. Federal guidelines should provide for greater flexibility in defining primary care. The four C's so often referred to should be the minimal or essential components, but greater latitude in exploring and testing new approaches to primary care training and delivery should be encouraged. It was noted in the results of this study that the Foundation-supported programs had a greater tendency to formulate goals and objectives beyond the four C's than the Federal ones. Less rigidity in the Foundation guidelines was no doubt instrumental in this greater diversity of goals. Federal agencies are in a position not only to promote the development of primary care programs but also are in a position to promote the examination of innovative approaches to the education of residents and to the provision of health services. Greater flexibility in program goals and objectives encourages creativity in adapting new programs to established institutional structures.

Clinical Affiliations

In a way that is similar to most residency training programs, programs in primary care tend to depend on university hospitals for their clinical experiences. This is to be expected because the university hospitals are usually conveniently located, the medical school and medical staff have control over the hospital, and rotation schedules can more easily be arranged. Nevertheless, although primary care residencies have been making use of university hospitals, more nonuniversity-affiliated institutions are being used as places where residents can obtain clinical experiences. This move outside the immediate university environment has been generated to some extent by a decreasing university patient population, a limited population for which a number of residents are "competing," and by the desire to place residents in clinical settings that will enable them to work in facilities and deal with patients which are more in keeping with the essential components of primary care. Whatever the reasons for these moves, diverse clinical affiliations are considered a benefit by many medical educators who have insisted that confining a graduate medical education to university hospitals and clinics exposes residents to an biased cross-section of the general patient population.

As important as this move to outside the university for clinical experiences has been, it is evident that greater effort will have to be made to seek still other clinical affiliations. As mentioned, most university hospitals have just about reached a saturation point in the number of residents that they can accommodate. With current and projected budgetary restrictions, in addition to more community control on the growth of health care facilities, it is difficult to imagine that many university hospitals will be expanding their patient care facilities in the near future. There is little evidence that university hospitals can or will expand significantly to accommodate the growing programs in primary care. Furthermore, university hospitals are decidedly inpatient oriented and the bulk of the residents' experiences are in that service. The alternative is for primary care to seek new locations for training.

First. *The obvious choice is community hospitals. The trend toward greater utilization of community hospitals has been going on for some time, and many university sponsored traditional residencies are already in community hospitals. However, the primary care programs are also competing with the straight residencies at these institutions, especially in hospitals that have outstanding reputations. Furthermore, most community hospitals are reluctant to develop extensive ambulatory care facilities; consequently, they offer primary care residents essentially the same experiences that they would obtain in a university hospital on the inpatient service. What is left for primary care programs are hospitals which are geographically remote from the university setting.*

These distant hospitals should not be overlooked. Many small community hospitals have enjoyed outstanding reputations, but have been neglected by university officials because of location. These hospitals must be considered seriously as training sites, as indeed many already are, because they can offer educational opportunities that are often not obtained in university hospitals. However, to ensure that the objectives of the training programs are achieved, it is essential that the university have some voice in the kinds and types of educational experiences to which the residents are exposed, and the university should have a role in the appointment of the staff members who will be responsible for the training program. The university must exercise overall supervision of the residents to ensure that university standards are maintained.

Second. *Since the use of community-affiliated hospitals does not* *necessarily answer the important need for ambulatory experiences, in this area the need will be more difficult to satisfy. Some appropriate courses of action have already been taken but must be given greater consideration. One of these is the development of faculty ambulatory group practices or HMOs. In institutions where these have already been developed, the residents in primary care are the beneficiaries of these ambulatory clinics. This study has clearly indicated that wherever HMOs and faculty group practices are operating, primary care residents spend a significantly larger portion of their time in ambulatory care than do those primary care residents in places where they do not exist. Medical schools will have to give far greater consideration to these types of practice arrangements if they intend to expand any residencies with primary care orientation.*

Third. Another source of ambulatory training will have to be with affiliated HMOs, organizations not university operated but with which arrangements have been made for rotating residents as has been accomplished in a number of affiliated community hospitals. Again, the university must obtain some assurance over "quality control," i.e., the types of experiences received and by whom. With the Federal government encouraging the development of HMOs their number will steadily increase, and medical schools should become involved in the planning of such organizations as potential sites for resident ambulatory experiences.

Fourth. Still another source for ambulatory experiences must be the use of community rural and urban clinics. Although the development of such clinics seems to have leveled off, they still represent a rich source of educational experiences. In fact, these clinics probably represent a more "real life" blend of patient ailments and concerns than might be found anywhere else. Residents who have made use of such facilities have found the experiences rewarding.

Fifth. Area Health Education Centers (AHEC) must receive greater attention than they have in the past. The major purpose of the national AHEC program is to provide primary care to medically underserved areas, and where AHECs are in existence or planned, residency programs in primary care must explore ways in which the goals of each can be mutually pursued. The national AHEC program represents one of the most innovative approaches in health care ever proposed by the Federal government and pursued by university medical centers. It would be reasonable for the Federal government to require that any new residency in primary care to be funded by the government be justified by evidence that the residency relates to the local or state-wide AHEC, if such an AHEC is in existence.

Primary care residency programs have done a remarkable job of identifying and utilizing quality clinical affiliations where both inpatient and outpatient experiences can be obtained by residents. However, as the number of residencies grows, if clinical facilities do not keep pace with that growth, even more imaginative use of community resources will have to be made.

Staffing

The residencies in this study have demonstrated that the successful primary care training program can be comprised of different combinations of staff. No single model can be identified as being the most effective and efficient in providing care. Each staffing pattern appears to fit a particular program need and particular program goals and objectives. There is little doubt that the primary care residencies are making greater use of a variety of health personnel, especially new types of personnel, than are the conventional programs. This is appropriate because of the nature of primary care. Furthermore, the programs have been highly successful in recruiting staff members who are socially oriented, clinically skilled, and knowledgeable in the science of medicine, attributes deemed highly desirable in primary care staff.

First. Programs must continue, however, to strengthen their staff. There is a need to continue to appoint program directors who have already gained the respect and support of their colleagues. These should be individuals with tenured faculty appointments who have security and can therefore devote their attention to the development and operation of the program.

Selection of program directors who have the respect of their colleagues is extremely crucial to the success of the program because they have to deal with a number of issues to which most faculty in university medical centers are most sensitive; e.g., space, patients, staff, and beds. How the program director deals with those issues will play a vital role in the way the program is perceived and the extent to which it receives cooperation from the divergent individuals who make up a university medical faculty.

Second. In programs with primary care pediatrics and medicine tracks, it is advisable for the program director to have a co-director or assistant director, preferably with an appointment in the department not represented by the director. In this study it has been evident that many conflicts and issues between medicine and pediatrics could have been resolved if some one in each department could be held responsible for the activities of the program. Of course, if the director is acceptable to both departments and has their respect, the differences can often be overcome. Unfortunately, there are not too many administrators who can satisfy this criterion. Appointment of a co-director or assistant director to represent the other participating department can be most helpful in effecting a smoothly operating program and making sure that activities are coordinated and do not overlap.

Third. The primary care training programs must continue to recruit dedicated medical teaching staff. Considering the brief time that non-family medicine primary care residencies have been supported, it is remarkable that so many faculty have been attracted to it. To the long time observer of medical education, it is not a surprise that so many staff, members who were formerly affiliated with straight medicine and pediatrics, have turned to the primary care. Most of these individuals were probably always highly psychosocially oriented and these new programs provided them with an opportunity to apply these aspects of medical care more readily.

Primary care is in the enviable position that more and more young physicians are searching for careers in this psychosocially oriented area. As primary care programs have in the past, so must they continue to attract individuals who are not only more psychosocially oriented than their colleagues but also possess equal, if not better, credentials as clinicians with a firm background in the basic knowledge or science of medicine than the traditional programs. The credibility of primary care programs depends essentially on these individuals.

Fourth. One inherent danger in recruiting staff for primary care is that most individuals attracted to such a program are highly competent clinicians, with a psychosocial orientation but with limited interest in research. When they are interested in research it is often in such areas as health care services, and patient psychosocial problems. Traditionally these are not subjects that the senior academic medical school faculty

> *consider appropriate in considering the promotion of tenured or nontenured faculty. The academic reward system must be modified to recognize that individuals should be promoted for their dedication to such things as testing innovative approaches to teaching residents, exploring new ways to improve the delivery of health services, strengthening the various components of primary care, and undertaking research on the psychological and social aspects of individual patient care. It is the rare medical university that accepts these as professional academic activities on par with bench or conventional clinical research. Without an adequate reward system, it will not be possible for primary care programs to hold on to their more outstanding faculty members.*

As mentioned, primary care programs have made tremendous strides in the development of the health team and still greater opportunities are available to test new and different configurations in the use of health personnel. Some programs that have used nurse practitioners have been reluctant to use physician assistants, largely for professional "political" reasons. These reasons need to be challenged. The use of dental staff and health educators, especially for nutritional problems, as members of the team has yet to be explored on a large scale. Only one program in this study made extensive use of home health aides although the Federal government has encouraged the training of such allied health workers for over a decade.

> *Fifth. The permutations of the types and number of individuals that can be used as part of the health team in primary care need to be explored and tested in greater detail. Primary care programs are in a far better position to demonstrate the contributions that can be made by the health team in the delivery of health services than any other program. Federally funded residencies should be provided incentives to develop and to test greater use of the health team in primary care.*

Residents

As indicated several times in this study, one of the recurring problems encountered in starting and continuing primary care residencies was the issue of image, not only the image of the training program, but also, more often than not, the negative image of the residents themselves. This negative image of the residents appeared in many forms, and often occurred in implied comments or inferences, such as that the residents were ". . . not cut from the same cloth as the straight residents," " . . . if they were (good, bright, sharp, etc.) they would have selected straight pediatrics or medicine," and "they probably could not have gotten into the straight program" were most often heard.

The data from this study should finally put to rest this unfortunate and unfounded stereotype. A comparison of the nonfamily medicine primary care residents with their counterparts in straight medicine and straight pediatrics leads to several conclusions. Both groups of residents came from selective (prestigious) undergraduate colleges and universities. The primary care residents tended to have received their medical education in more selective (high status and high visibility) medical schools than their colleagues in traditional programs. Scores on the NBME examinations indicate there was no difference in the mean performance of the two groups. Furthermore, this study demonstrated that the primary care residents' performances on the NBME examinations was above the national average of all of those who took the examinations.

These data were validated and corroborated by the interviews held with colleagues of the primary care residents during the site visits. The residents' clinical competence and background in the basic knowledge of medicine were attested to by the vast majority of those interviewed. That the primary care residents were perceived to be equally or more psychosocially oriented by everyone interviewed is a testimonial not only to the residents but also to primary care.

This strong psychosocial orientation was accompanied by a motivation to enter primary care that was also socially oriented. As contrasted to straight residents, those in primary care selected their specialty because they saw it as useful to society and personally satisfying, whereas the straight residents more often than not were motivated by a role model.

The matter of role model is an interesting one for primary care. Because the emergence of nonfamily medicine primary care is a recent phenomenon, it is not surprising that there are few role models for medical students to emulate. Fortunately, many primary care residents decided on a career before entering medical school so the absence of role models has not been a deterrent to encouraging students to become primary care physicians. However, as the residencies become more established, and as more qualified faculty members are attracted to the programs, it should follow that more role models will emerge. With many students continuing to select a primary care career before entering medical school and with more role models developing, it is possible that even more highly qualified applicants will be applying to the programs. Thus these programs may well be able to be more selective in choosing residents.

That one-third of the primary care residents in this study expressed a desire to undertake a fourth year of residency is paradoxical. The first reaction to this might be that it is unfortunate because it would postpone entrance into actual medical practice. Another reaction to this might be that it reflects negatively on the programs because those electing a fourth year do not feel qualified to begin practice. Still another reaction might be that these individuals are insecure and take a fourth year to gain greater assurance that they will pass the American Board of Internal Medicine Examination. These are conclusions that might be postulated by the detractors of primary care. However, until data are reported as to the number of residents in straight medicine and straight pediatrics who opt for a fourth year and how the fourth year is spent, it is not possible to draw any conclusions about why the one-third would like to take a fourth year. At best, only hypotheses can be drawn which need future testing. Obviously, there is a need for studies of primary care residents who take a fourth year of training, whether in primary care or a subspecialty in medicine or pediatrics.

As the motives of residents for selecting a primary care career are different from those of residents selecting a straight medicine or straight pediatrics career, so are the motives of the two groups of residents for selecting a particular program. Primary care residents are more concerned whether the program fits their image of what a good primary care residency should be, whereas the conventional residents tend to be more concerned with the geographic location of the program; and its reputation.

> *This being the case, it may be important that primary care residencies take various forms and not become standardized so that medical students can select those which best fit their image of what is a desirable program.*

Patient Population

This section on the patient population could have been combined with the one on clinical affiliations because the type of patients served is in many ways determined by where the services are offered. However, first it will be useful to elaborate on some of the issues associated with this topic.

There is a slow but perceptible decrease in the number of patients seeking medical assistance in university medical centers. In centers where there has been no significant decrease in the patient population, there has been an increase in the number of medical students and residents; this results in a decreased ratio of patients to students. In centers where there has been a decrease in patients as well as an increase in students and residents, the ratio is further decreased.

With this kind of a situation it is no wonder that some new programs in primary care have experienced, and continue to experience, a shortage of patients. As more primary care residencies are developed, the shortages will increase further. The shortage of patients is even greater in pediatrics than in medicine because there has been a general decrease in the number of new births in the nation during the past decade. When primary care programs compete with their straight counterparts for an existing population, primary care tends to lose out.

The competition for a patient population will become even more acute as family medicine residencies are developed or increase in size, especially at the same institutions or in the same geographic locations where the primary care programs exist. The family medicine programs probably will be at an advantage because they emphasize the family as a unit of care and this emphasis might be especially attractive in encouraging families to seek medical assistance as a unit.

It is evident that primary care programs with specific enrollees have experienced fewer problems related to an adequate patient population base than those without such a scheme.

> *First.* *As already recommended, it appears that the most potentially rewarding course of action is for more programs, especially ones that are in the planning stage, to consider the development of some type of faculty ambulatory group practice or HMO. Several medical schools have developed such private practice programs and have primary care residents rotating through them. If medical schools are reluctant to develop some form of private practice arrangement, then the administrators should consider the alternative of affiliating with an existing or developing HMO. An HMO represents the most likely source of ambulatory patients for primary care residencies.*

Primary care programs should not expect referrals from private practitioners in the community as a significant source of patients. This study has clearly demonstrated that private practitioners do not refer patients in any appreciable amount. The number of referrals will undoubtedly decrease even further as the community becomes saturated with primary care physicians.

Second. As all of the alternatives to developing an adequate patient population base are considered, it becomes more and more evident that primary care programs will have to generate their own patient population base. Increases in numbers of patients should occur through self-referrals as the availability and quality of the local program becomes common knowledge.

Third. It was recommended in the section on clinical affiliations that a variety of settings be established where residents can obtain their training. Rotating through a number of clinical affiliations will provide the residents not only with ambulatory care experiences in different settings but also experiences with a wider range of patients than would normally be found if the residency were limited to one or two affiliations only. Furthermore, the residents benefit from managing patients with a wide range of medical problems as well as a wide range of socioeconomic backgrounds. This study demonstrated that the socioeconomic backgrounds of patients that present themselves in primary care programs is a factor of geographic location of the service and the reputation of the staff. Therefore, to avoid being locked into providing patient care services to patients of only one socioeconomic class, a variety of clinical affiliations will have to be developed so that a more diverse patient population is available to residents.

Training Programs

It has been almost ten years since the Foundation and the Federal government embarked on the support of non-family medicine primary care residency training. The ten years have provided invaluable experiences in the planning, development, and operation of these residencies. This study spent considerable time examining the training programs. It would be most unfortunate if the study of the originally funded programs is not continued, for invaluable lessons can be learned through follow-up of these pioneering efforts.

Obviously, primary care should be different from non-primary care. The definition of primary care dictates that the training of individuals to provide that patient care service must also be different.

> *First. The training should be more psychosocially oriented and provide greater continuity of care than the straight residencies. Furthermore, it should also take place in a variety of clinical settings so that a great variety of patients can be seen that represent a diverse socioeconomic population. Primary care training does make greater use of the health team in the provision of health services, than the conventional residency and the inclusion of nurse practitioners, physician assistants, social workers, among others is evident. Indeed, the programs have taken definite steps to differentiate the training from that which is offered residents in straight medicine and pediatrics.*

Nevertheless, more should be done to strengthen the programs by further differentiating them from the conventional ones. Specific recommendations will be made in the following section, but the following are some generalities.

> *Second. There is a definite need for well developed syllabi. As mentioned earlier, the lack of goals and objectives created a number of problems for*

some programs; similarly, the absence of a detailed syllabus created problems in some cases. A syllabus assures the residents that their training will prepare them for certification by the American Board of Internal Medicine, whereas not knowing what is encompassed in the entire training program can lead to anxiety especially because the programs are relatively new and experimental. Syllabi are also needed so that the differences between the primary care and the straight programs can be made explicit and made public. Misunderstanding can be avoided if it is recorded that there are distinct differences between the training of residents for primary care and the training of residents in internal medicine and pediatrics.

Third. Although great advances have been made in the provision of continuity of care, still more can be done. Often programs have been hampered in providing continuity of care because they do not have the appropriate clinical facilities and an appropriate patient population. Once more, the importance of developing suitable ambulatory clinical affiliations is evident, especially if a university medical center cannot provide the appropriate patient population. Primary care physicians are expected to provide long-term care to their patients and therefore it is important that residents get ample experience in long-term care. Residency programs should be able to specify in detail how continuity of care experiences are obtained.

Fourth. All programs should embody some community experiences, and community medicine should play a greater role than it does in the straight residencies. Again, some have made extensive use of the department of community medicine, but this is usually more a function of the status or aggressiveness of the head of the department than it is of the merits of community medicine. In some cases the community experiences were an "add on" rather than an integral part of the primary care program. Because of the nature of primary care, it makes good sense that residents be thoroughly oriented to community resources and the role of the community in the provision of health services. It also makes good sense for the department of community medicine, with their broader outlook on the delivery of health, to be involved.

Fifth. The role of psychiatry in primary care programs needs to be expanded. After receiving training in the essentials of medicine and pediatrics, perhaps no clinical discipline can play a greater role than psychiatry. If primary care is to embody continuity and comprehensiveness, it is inconceivable that psychiatry can be left out. Whether psychiatric experience is gained through specific rotations on the service or through consultation/liaison is not the point; the point is that it should be provided throughout the entire training and be interwoven as an integral part of residency experience. We do not know the degree of acceptance psychiatry and community medicine have received or whether they have argued convincingly their merits as disciplines essential to the training of primary care residents. What is known is that the role of these two disciplines should be expanded.

Sixth. One feature of the training that was used only minimally should be explored and tested on a larger scale. This is the "crossover" from pediatrics to medicine and from medicine to pediatrics. In a "crossover" program, all pediatric residents have a rotation on medicine and all medicine residents have a rotation on pediatrics. Because the distinction in primary care between who can provide pediatric care and who can provide internal medicine care is not as critical as it is in straight internal medicine and pediatrics, both groups of residents should get "crossover" *training. This kind of experience will probably benefit the medicine residents more than the pediatrics residents because more of them will be providing medical care to entire families when they enter private practice. Not to be overlooked is the need for obtaining experiences in adolescent medicine.*

Seventh. The fact that the pediatric tracks do not receive as many applicants for their available training slots should come as no surprise. Traditionally, pediatrics has been viewed as a "primary care" specialty. Furthermore, the regular programs differ little from the primary care tracks. Perhaps pediatrics primary care will have to create training programs that show a greater "distance" from the straight ones so that they can attract a larger number of residents with a different patient care orientation than those seeking straight pediatrics.

Patient Care and Educational Activities

This section, which deals with the patient care and educational activities that comprise the training, is related to the previous section on training programs. Some conclusions and recommendations overlap, but others are distinct. Both are included in this section.

First. As already mentioned, there should be a strong emphasis on psychiatry and community medicine. It is desirable to continue these two patient care and educational activities throughout the duration of the entire training rather than to schedule them during a brief and intense period of time. The relevance of these two disciplines to the provision of primary care is generally agreed upon and this should be reflected during the continuum of training. This, however, may not come about until either psychiatry and community medicine make a better case for their inclusion, *or program directors recognize the contributions of these two disciplines to the training of residents. At any rate, there is a definite need to examine in detail the role of these two specialties in primary care.*

Second. There are other patient care and educational activities that should be better understood. There is, for instance, little uniformity as to who provides certain patient services. For example, should pre- and postnatal care be restricted to medicine or pediatrics? Should prenatal care be provided by medicine and postnatal care by pediatrics? Should both disciplines provide it? What kind of minor surgery should be provided and by whom? This study has revealed that there was no uniform answer to these questions, and perhaps there should be none because all of the programs in some ways were distinctly different from each other. Although it is desirable that diversity be encouraged, some uniformity is also desirable so that the distinction between primary care and the traditional residencies can be evident on a national scale rather than just by individual programs. Admittedly, these are sensitive professional issues, especially the question on minor surgery, but they will have to be answered as primary care emerges and develops an identity which will distinguish it from straight medicine and pediatrics and even from family medicine. Perhaps answers to these questions will not be resolved until more primary care residencies have been developed and they have had time to develop strategies for resolving these delicate but basic issues.

Many similar issues surround the role of the subspecialties. There is general agreement that dermatology is important to primary care, but there is a difference of opinion as to what specialty skills a primary care physician should possess. Some programs did and did not include exposure to otolaryngology, ophthalmology, orthopedics, and gynecology. Even, a cursory examination of what areas general medicine might embody suggests that the primary care physician deals with patient problems related to dermatology, otolaryngology, ophthalmology, orthopedics, and gynecology, not at the level of the specialist but at least at that of the level of the "generalist." If this is indeed so, why are not all of these specialties included in the patient care and educational activities of primary care training? The issues become even more confused when the roles of such subspecialties as cardiology, pulmonary medicine, arthritis, and rheumatology are considered. Does the general training in primary care medicine and pediatrics adequately deal with these subspecialties?

These are important issues because the fundamental question of what are the specific patient care services that a primary care physician provides (or should provide) has never been answered satisfactorily. This is why the national medical practice study being conducted by the University of Southern California, Division of Research in Medical Education (Mendenhall) is so important. There will continue to be differences in the patient care and educational activities of primary care residencies until the question of what primary care specifically embodies is resolved. Until this is resolved, there will also continue to be problems associated with the development of well defined objectives, a problem discussed in an earlier section of this chapter.

> Third. *What truly distinguishes primary care training is the amount of time spent in ambulatory patient care service. Our study, again, has demonstrated that this feature clearly differentiates primary care from the straight residencies. What needs to be examined in more detail is how much "more" is desirable? Is the current balance appropriate or is there a need to increase further the time spent in ambulatory care patient activities? It seems highly desirable that the amount of time spent in outpatient activities should be increased and existing ones modified. The*

effect of this increased time can be studied through resident performance on the American Board of Internal Medicine Examinations.

Our study was not able to determine why the pediatric residents spent more time in ambulatory care and less in inpatient care than the residents in medicine. Granted, the pediatric residents spent time in well baby clinics, but this was compensated by the medical residents spending time in emergency rooms. It is possible that the number of pediatric inpatients is so limited, with regular residents having priority to them, that the only alternative is to seek out ambulatory care settings to obtain the training. If it is possible for pediatrics to increase the amount of time that residents spend in ambulatory care it should be possible for medicine to do the same.

If a hypothesis had been formulated before undertaking this study it would have been that, because the primary care residencies were a new feature of graduate medical education, they would be more flexible than the straight ones. Obviously, this hypothesis would have been rejected because the results show that the primary care programs were far more rigid than those in straight medicine and pediatrics. As the data from this study were examined, it became evident why this was so; although there was greater variety in the training, the variety was in the form of required activities. Specifically, more was expected of the primary care residents and this was reflected in the number of required activities and rotations.

Fourth. *Although it appears desirable to prescribe the patient care and educational activities, more attention should be paid to allowing residents to pursue their particular interests through the availability of electives. These electives can be few in number and limited in the time spent in them, but by making them available it will allow some individuals to develop professional skills that they cannot obtain through the regular training. There is, however, an inherent danger in offering electives; i.e.,* *too many residents will select additional training in a subspecialty, such as cardiology, especially if they are anxious about passing their board examinations. They might also tend to elect courses and training in the medical and pediatric subspecialties, sacrificing the opportunity to engage in electives that are more primary care oriented, such as those in the social and behavioral sciences, health services research, and the like. To prevent this from happening the residents will have to be assured that their regular training program will adequately prepare them for taking the board examinations and that the elective time, as limited as it might be, could be more productively used by pursuing less medically oriented activities that will benefit them more as primary care physicians.*

As in the case of electives, there is an inherent danger in offering a fourth year in the residency. For the insecure individual, the fourth year can easily become a repetition of the patient care and educational activities engaged in during the previous years with the argument that an additional year will develop greater confidence in passing the "boards."

Fifth. If a fourth year is offered it should be distinctly different from the previous years, such as serving as a junior faculty member or the like. With the training so prescribed and with so little opportunity for electives, it is too much to expect the residents to engage in research. This should remain an option for only the truly motivated and capable resident. Perhaps it might be considered as an extended activity in the fourth year, if a fourth year is offered.

Evaluation

Internal efforts to evaluate the primary care residencies were spotty: Some efforts were good, some mediocre, and some outstanding. Because the

Foundation required that the programs it supported have an evaluation component, those programs tended to devote more attention to evaluation. The range of activities that encompassed the evaluations was highlighted at the 1979 meeting of the Association of American Medical Colleges Eighteenth Annual Conference on Research in Medical Education (Dienst, Posen, Rosinski, and Cluff, 1979.) Each program took a different tack in designing its evaluation scheme because the goals of the programs, where they existed, varied considerably.

The lack of goals and well defined objectives continues to be the major reason for the lack of more elaborate and objective evaluations. As has already been suggested in this chapter, the lack of objectives has created a number of problems in the planning and operation of the programs and the lack of summative evaluative data has made it difficult to assess the merits or accomplishments.

> *First. The recommendation that all programs specifically define their objectives is made again because without objectives the programs cannot be evaluated.*
>
> *Second. Each program should have an individual responsible for the evaluation. Although it would be most desirable to have this as a full-time assignment, budgetary restrictions might not make this possible so some other accommodation may be in order. Whatever the approach, the important consideration is that someone be accountable for the design of the evaluation plan and to oversee its implementation. Data on primary care programs are in great need so that having someone responsible for the evaluation should command a high priority. It would also make good sense to utilize whatever appropriate talent is available in the institution to assist the program evaluator.*
>
> *Third. The evaluation should consist of two components: Overall program evaluation and evaluation of the residents. The residents should be*

assessed in terms of their clinical competence through the use of a variety of techniques, which can be designed and applied by the program evaluator. The overall evaluation will depend on the program goals, and again, the techniques to be used can be developed by the program evaluator in conjunction with the staff or with whatever appropriate consultative resources might be available at the institution.

One of the approaches to program evaluation that should be considered is patient expectations and perceptions of primary care. Several programs have already embarked on this approach with rewarding results.

Fourth. It would be easy to detail what a complete evaluation plan might encompass. However, because programs are still testing various ways to provide primary care and the training of residents, each program must design its own plan. It is reasonable that all programs seeking extramural funding, especially from the Federal government, should be required to appoint an individual to be responsible for the evaluation and to submit a plan as to how the program is to be evaluated. At a time when greater program accountability is being required, it is reasonable to stipulate that funding will be contingent on the development of an evaluation plan.

Funding

As indicated in the report to the Robert Wood Johnson Foundation, objective studies of funding graduate medical education continue to be elusive. The greatest barrier to undertaking thorough and comprehensive studies is the lack of comparable data. Even when similar Federal reporting forms on expenditures and income are used or required, variations in how the data are reported are so great that reliable comparative studies are risky at best. There is little evidence that any new and significant study of funding graduate medical education has been undertaken in the two years since the Foundation report was prepared. Furthermore, the analysis of the data gathered in this Federal study adds little to what was concluded and recommended to the Foundation.

In general, it can be concluded that Federal funding was important in several programs becoming operational. Without those funds the initiation of the residencies was in doubt. Furthermore, where Federal dollars were available in the initial stages, the resistance to the programs was minimal. As indicated in other sections of this chapter, during periods of steady-state budgets there is keen competition for institutional funds to continue existing programs. Consequently, new programs must aggressively seek out extramural funds. For the foreseeable future Federal funds will be required to start programs that are in keeping with national priorities.

Another important conclusion is that the programs have been able to project realistic budgets. The allocations of all the programs studied have remarkably good records of adhering to their budget projections. The one factor which the programs - or anyone else, for that matter - could not have anticipated was the double-digit inflation which has caused some budget over-runs. It is evident that most programs, and probably institutions making future applications for Federal funding, can be trusted to give accurate estimates of what cost will be incurred in the operation of the residencies.

If there is one area which programs should pay greater attention to, it is to monitoring costs related to administrative staff and support salaries. Also, the issue of Medicare reimbursement continues to plague programs and this issue will have to be resolved.

The data on funding obtained in this study are discouraging but were not unanticipated. As indicated in the previous chapter, it can be hypothesized that a number of tangible and intangible factors contributed to this. Nevertheless, it appears that several recommendations are in order.

First. *Each one of the sixteen residencies studied should be looked at as individual case studies, focusing only on the funding aspects of the program. Patterns might emerge from the case studies which could have implications for graduate medical education. This would entail designing a completely new study limited to funding.*

Second. *All of the more recently Federally supported residencies (some 40 - plus programs) be included in a new and comprehensive study examining a number of important issues related to financing the programs. With this large number of cases (programs) one of the most definitive studies to date could be undertaken, a study which is desperately needed.*

Third. *Some appropriate Federal agency convene all of the major parties interested, concerned, or involved in the funding of graduate medical education to determine if a comprehensive study of all graduate medical education, especially comparisons among various types of residencies, is feasible. Such a meeting might include representatives of the Institute of Medicine, the Association of American Medical Colleges, American Hospital Association, Office of Management and Budget, and the Congressional Budget Office, to mention just a few. With national health insurance in the offing the need for a major study of funding graduate medical education is in order.*

Fourth. *Because a number of critical questions regarding funding remain unanswered, any national study should first clearly define what questions require answers.*

Institutionalization

Perhaps the ultimate criterion of success is whether a program continues upon termination of external funding. If this criterion is accepted, then all but one of the programs were a success although in some cases the success was conditional.

For a program to get started, to continue in operation, and to be institutionalized requires that a number of conditions must be met. Among others, the critical conditions include the following:

First. Philosophic differences among colleagues must be resolved.

Second. A substantive quality program must be developed.

Third. Forceful leadership must be provided.

Fourth. Endorsement and tangible support of the dean of medicine and the heads of the key clinical departments must be evident.

Fifth. Commitment of the teaching staff of the program must be present.

Sixth. Any potential conflicts must be anticipated.

Seventh. The professional community must endorse it or at least not work against it.

Eighth. The lay community must be aware of the programs' potential contributions.

Ninth. Continued funding must be assured.

Tenth. There must be a commitment to primary care as one alternative to the provision of health services.

When these conditions are met there is little doubt that programs will become institutionalized. When the majority of these conditions are not met, failure is likely. The programs in this study ranged from one extreme to another. Some embodied all of the conditions and made the transition to institutionalization with relative ease. At the other extreme, one program never really got started because practically none of the conditions were in evidence, while another had, and continues to have, problems because a number of them never were satisfied.

At the beginning of this chapter, it was recommended that a number of things should be done to reduce the problems a program might encounter. That recommendation can be best summarized under the title of "planning," for with thorough, and participatory planning, the conditions essential to program instititionalization can more easily be met. Institutionalization is not an inevitable outcome. For it to occur requires careful and thoughtful planning, and much effort.

Of itself, institutionalization is not enough. In the final analysis what is important is that high standards of training and patient care be established. The residencies in this study clearly established such standards. What was stated in the report to the Foundation can be paraphrased here: With faculty and residents who are clinically competent, psychosocially oriented, sensitive to the needs of patients and their families, and alert to the health needs of the community they serve, outstanding standards in the provision of health care are established. With programs whose educational and scholarly rigor are beyond question, outstanding standards in the training of residents are likewise established.

As new programs are developed, problems and some opposition will probably arise. But the opposition will be much more muted because these pioneering programs in nonfamily medicine primary care clearly demonstrated remarkably high standards in training and in the provision of health services.

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APPENDICES

The questionnaires and interview schedules were developed for the Robert Wood Johnson Foundation Study. When the questionnaires were administered to the Federally supported residencies, respondents were requested to substitute the word "Federal" for "RWJF." Likewise, in all of the interviews, "Federal" was substituted for "RWJF" where ever it occurred.

APPENDIX A

RESIDENT QUESTIONNAIRE

Name of College or University which sponsors your Primary Care Program:

____

1. Name ____________________ 2. Age ______ 3. Sex ________

4. Father's/Mother's Occupation ____________________

5. How do you describe yourself? (Check one)

_______ Black/Afro-American
_______ American Indian
_______ White/Caucasian
_______ Mexican/American or Chicano
Oriental/Asian-American
_______ Puerto Rican (Mainland)
_______ Puerto Rican (Commonwealth)
_______ Latino
_______ Cubar
Other

6. Citizenship

_______ U.S.A. _______ Other (Please indicate country) ________

7. Current resident status (check one).

_______ PG1 _______ PG2 _______ PG3 _______ PG4

8. Name of undergraduate degree granting college or university.

9. Name of medical school.

10. Did your medical school have a curriculum that provided for tracking? (check one)

_______ Yes _______ No

11. Did you follow a curriculum track? (check one) _______ Yes _______ No

12. If you did follow a curriculum track, in what specialty?

13. Were primary care activities required in your medical school? (check one)

_______ Yes _______ No

14. Were primary care electives available in your medical school? (check one)

_______ Yes _______ No

15. Did you take any primary care electives? (check one)

_______ Yes _______ No

16. At what point did you decide to go into primary medical care training? (check one)

_______ Before medical school
_______ In medical school
_______ Upon graduation
_______ During another residency
_______ While in private practice
_______ In National Health Corps
_______ In Military Service
_______ Cannot really pin it down

17. Was there any particular event or incident that triggered your decision to go into primary medical care? (check one)

________ Yes ________ No

If "yes" what was the event?

18. Reason(s) for selecting primary medical care? (check one or more)

________ No reason at all.
________ Appears to be professionally satisfying.
________ Society needs primary care practitioners.
________ Appears to be personally satisfying.
________ Best way to utilize and apply my interests and talents.
________ Better opportunities for locating (geographically) professionally.
________ Inspired by others in the discipline.
________ Other (cite)

19. Reason(s) for selecting this particular program? (check one or more)

________ Geographic location
________ Reputation
________ Had friends in it
________ Other (cite)
________ Provides a varied training program
________ Best fitted my image of a desirable program
________ No apparent reason

20. Do you plan a fourth year residency (or fellowship)? (check one)

________ Yes ________ No

21. If yes, in what (discipline, subject, topic, etc.)?

22. Have you had residency training in another specialty? (check one)

________ Yes ________ No

23. If yes, in what specialty? Duration of training? ________ months

24. As a primary care practitioner, what would you like to be doing five years from now? (Describe it briefly)

25. With the benefit of hindsight, would you apply for the program again, if you could turn back the clock? ________ Yes ________ No

26. Do you feel that the program you are now in has matched the expectations you had on entrance to the program? ________ Yes ________ No

If there is a discrepancy between your expectations and your experience, please briefly describe the basis for that difference.

27. Are you a diplomate of the National Board of Medical Examiners (NBME)?

________ No ________ Yes Date:______________

Have you successfully completed the Federation Licensing Examination (FLEX)?

________ No ________ Yes Date:______________

Are you certified in a Board specialty?

________ No ________ Yes Date:__________ Specialty:______________

Are you certified in a Board sub-specialty?
________ No ________ Yes Date:__________ Sub-specialty:____________

If you are not now Board certified, do you plan to be?
________ No ________ Yes If yes, what Board and date?
(1) Specialty Board:__________________ Date:_______________
(2) Specialty Board:__________________ Date:_______________

This form was designed by the staff of the Office of Medical Education, University of California, 50 Kirkham Street, San Francisco, CA 94143, under the sponsorship of the Robert Wood Johnson Foundation for a study of Primary Care Residency Programs. Only group means will be reported.

Please return the completed form to:

Office of Medical Education
University of California
50 Kirkham Street
San Francisco, CA 94143

APPENDIX B

BASIC PROGRAM QUESTIONNAIRE

1. Name of Program.

2. LCGME/AOA approval status PMC residency (check one)
________ Provisional ________ Probationary ________ Approved

3. What department has the major responsibility for the PMC Residency Program? (check one)
________ Medicine
________ Pediatrics
________ Family Medicine
________ Separate department of Primary Medical Care
________ Community medicine.
________ Other (Please indicate)

4. Faculty rank of Program Director. (check one)
________ Professor
________ Associate Professor
________ Assistant Professor
________ Other (please indicate)

5. Specialty field of Program Director. (check one)
________ Internal medicine
________ Pediatrics
________ Community medicine
________ Family medicine
________ Other (please indicate)

6. Salary source of Program Director. (check all that apply)
________ University (medical school)
________ Private practice
________ Group practice
________ Foundations
________ Government (Federal) grants or aid
________ Other (please indicate)

7. Primary departmental affiliation of Program Director. (check one)
________ Medicine
________ Pediatrics
________ Family medicine
________ Separate department of primary medical care
________ Community medicine
________ Surgery

8. Faculty rank of Co (associate) Program Director. (check one)
________ Professor
________ Associate Professor
________ Assistant Professor
________ Other (please indicate)

9. Specialty field of Co (associate) Program Director. (check one)

________ Internal medicine
________ Pediatrics
________ Community medicine
________ Family medicine
________ Other (please indicate)
____

10. Salary source of Co (associate) Program Director. (check all that apply)

________ University (medical school)
________ Private practice
________ Group practice
________ Foundations
________ Government (Federal) grants or aid
________ Government (state/municipal) grants or aid
________ Other (please indicate)
____

11. Primary departmental affiliation of Co (associate) Program Director. (check one)

________ Medicine
________ Pediatrics
________ Family medicine
________ Separate department of primary medical care
________ Community medicine
________ Surgery

12. On what date was the PMC residency program established?

13. Date the program was approved by the medical school.

14. Date the first resident began training.

15. Date the program was accredited.

16. What is the level of your most senior resident? (check one)

________ PG1 ________ PG2 ________ PG3 ________ PG4

17. The program (check one)

________ Is fully operational
________ In planning stage

18. If in the planning stage, what is the target date for it to be fully operational?

19. During the most recent year, what portion of your operating budget was from the following sources?

________% Foundation grants
________% Federal grants
________% State grants
________% University (medical school) budget
________% Patient care (including government and commercial third party payments)
________% Other (please indicate)

20. Did (or is) the program encounter(ing) any of the following problems? (check all that apply)

________ Lack of funds
________ Lack of teaching faculty
________ Lack of patients
________ Lack of suitable applicants
________ Lack of hospital support
________ Lack of medical school support
________ Lack of Department of Medicine support
________ Lack of Department of Pediatrics support
________ Lack of space
________ Other (please indicate)
________ Other (please indicate)

20.A. Which of the items checked above in Question 20 do you consider to be the most serious detriments to program development, program continuity, and possible program institutionalization?

Program development
Program continuity
Program institutionalization

21. Please RANK the following general purposes of a PMC residency program and check whether each purpose HAS BEEN MET, is in the process of BEING MET, or has NOT BEEN MET, as yet.

Purpose	Rank	Met	Being Met	Not Met
A. Train primary care physicians with competence in internal medicine, pediatrics, psychiatry, and obstetrics-gynecology.				
B. Provide medical students with experience in primary medical care.				
C. Train residents in the utilization of allied health personnel.				
D. Develop the health team as a means of providing primary medical care.				
E. Expand the program of training PMC residents.				
F. Fill a patient care need.				
Others (please list and rank)				
G. ________________________________				
H. ________________________________				
I. ________________________________				

22. How many residency positions were available and how many applicants applied during the two most recent years?

	Academic 1976-77	Academic 1975/76
Positions available		
Number of applicants		

22.A. Does your program have its own number in the national intern matching process?

________ Yes ________ No

If yes, in which school year was it first used for matching?

22.B. Are you satisfied with the ratio of applicants to positions filled in your program?
__ Yes ________ No

23. Please indicate the number of residents who withdrew from the program since its inception and also indicate where they went, such as selecting a different residency.
________ Left BEFORE completing one year. Left to ________________
________ Left AFTER completing one year. Left to ________________
________ Left BEFORE completing two years. Left to ________________
________ Left AFTER completing two years. Left to ________________
________ Left BEFORE completing three years. Left to ________________

24. What were some of the reasons given for withdrawing from the program? (check all that apply)
________ Dissatisfaction with the program.
________ Dissatisfaction with primary medical care as a potential career.
________ Dissatisfaction with geographic location of program (e.g. urban-suburban, city-town-rural)
________ Personal reason
________ Select another medical/surgical specialty
________ Financial reason
________ Other (please indicate)

25. As of today's date (please enter date) ____________ indicate the number of residents in PMC in your program.
________ PG1 ________ PG2 ________ PG3 ________ PG4

26. Please indicate the stipends paid the PMC residents and check whether those stipends are higher or lower than those paid to residents in pediatrics and internal medicine at comparable levels.

		Medicine		Pediatrics	
Stipend	Level	Higher	Lower	Higher	Lower
$________	PG1				
$________	PG2				
$________	PG3				
$________	PG4				

27. Is there a special procedure in the Department of Medicine for selecting residents for the PMC program? (check one)
________ Yes ________ No

28. Is there a special procedure in the Department of Pediatrics for selecting residents for the PMC program? (check one)
________ Yes ________ No

29. Please enter the number of your residents (present and past) who transferred into your PMC program from other residencies. Also check at what level they entered your program and whether they transferred from another program in your institution or whether they transferred from another institution.

		PG1		PG2		PG3	
#	Residency	Same	Other	Same	Other	Same	Other
	From Internal Medicine (plus subspecialties)						
	From Surgery (plus subspecialties)						
	From Pediatrics (plus subspecialties)						
	From Obstetrics-Gynecology						
	From Psychiatry						
	From Family Medicine						
	From others (please name)						

30. If any of your residents (past and present) were in private practice when they selected the PMC residency program, please indicate the number.

31. How many weeks are there in your residency academic year?

32. For each year of the residency program, please indicate the number of weeks spent (required) in the following disciplines. If time allotments are not made by weeks, enter percent (%) of time spent in that discipline.

	PG1		PG2		PG3	
Discipline	Weeks	Percent	Weeks	Percent	Weeks	Percent
Internal Medicine						
Pediatrics						
Ob-Gynecology						
Community Medicine						
Psychiatry						
Surgery						
Research						
Electives						
Others (please list)						

33. What CLINICAL electives are most frequently selected. Please list at least three in RANK order. Also please check whether you consider the elective as outpatient or inpatient.

Rank	Name of Elective	Outpatient	Inpatient
1.			
2.			
3.			
4.			
5.			

34. Please list five non-clinical experiences (courses, seminars, "electives", etc.) most frequently selected by the residents (e.g., a course in human sexuality, a weekend seminar in medical ethics, etc.).

1.
2.
3.
4.
5.

35. Approximately what percent of the residents' time is spent in the following clinical activities?

	Outpatient	Inpatient
PG1	%	%
PG2	%	%
PG3	%	%

36. Please enter by year of training, the number of residents who are engaged in some kind of research. (Research can be clinical, non-clinical, psychological, etc.)

PG1	PG2	PG3	PG4

37. In which of the following types of research activities do these residents participate? (check all that apply)

________ Drug Studies
________ Bench (Laboratory) Studies
________ Clinical Studies
________ Epidemiological Studies
________ Sociological Studies
________ "Quality of Care"
________ Others (please list)

38. If residents have formal teaching responsibilities, whom do they teach? (check all that apply)

________ Medical students
________ Residents
________ Nurses
________ Physician assistants
________ Social workers
________ Other allied health personnel

39. Which of the following techniques are used to evaluate residents' performance? (check all that apply)

________ Quality of care audit
________ Surveys of patients
________ Observation by faculty
________ Observation by faculty with the use of some form of check list
________ Written narrative reports by faculty
________ External examiners
________ Some form of paper and pencil test
________ Peer evaluation
________ Other (please list)

40. What method(s) is/are used to evaluate the total PMC residency program? (check all that apply)

________ Internal self-evaluation (please describe)
________ External evaluation (use of external auditors, external examinations, and the like). (please describe)

41. Is your evaluation scheme such that you are assessing your program against a set of formulated objectives? (check one)

________ Yes ________ No

42. Medical students rotate through the PMC program as: (check all that apply)

________ Core curriculum (medicine and/or pediatrics) requirement
________ Elective
________ Not at all

43. In addition to physicians, how many of the following personnel comprise the professional staff of the PMC program. Please enter the number under the full- or part-time headings.

	Number	
Personnel	Full-Time	Part-Time
Dentist		
Dental Hygienist		
Clinical Nurse		
Nurse Practitioner		
Public Health Nurse		
Nurse Midwife		
Nutritionist		
Social Worker		
Clinical Psychologist		
Physician Assistant		
Others (please list)		

44. Are patients specifically enrolled as your program patients as contrasted to general medicine patients? (check one)

________ Yes ________ No

45. If patients are specifically enrolled in your program, please indicate the total number currently enrolled. ________ Number

46. Does your program encourage families to sign up as part of your patient population? (check one) ________ Yes ________ No

47. Are the individual records of patients who are part of a family (or household) kept as a family (or household) package or file?

________ Yes, records are kept as a family package.
________ Yes, records are kept as a household package.
________ Records are not "grouped" in any way.

48. What percentage of your patient population represents families? ________%

49. Please indicate the average time residents spend with patients.
_______ Minutes for initial visit (initial workup)
_______ Minutes for follow-up visit or succeeding visits

50. Are there any plans to phase the PMC residency program into an HMO?
_______ Yes _______ No

51. If you have any data on cost per visit per patient per resident please enter it.
$_______ Cost per visit per patient per resident

52. At present, how would you describe your patient load in maintaining a fully operational PMC program? (check one)
_______ Definitely could use more patients
_______ Not hurting, but could use a few more patients
_______ Have more than enough patients

53. What percentage of your total patient population comes from the following social-economic backgrounds?
_______% Upper
_______% Upper middle
_______% Lower middle
_______% Upper lower
_______% Lower lower

54. Please RANK the following major sources of patient referrals to your program.
_______ Other departments of the medical school
_______ Other hospitals in the community
_______ Self referals (off the street)
_______ Private practitioners in the community
_______ Public health agencies (Departments of Public Health, Family Planning, etc.)
_______ Voluntary Health Agencies
_______ Public information about program

55. Is there a family medicine residency program in your medical school? (check one)
_______ Yes _______ No

56. Are beds actually assigned (available upon demand) to your PMC program for inpatient care? _______ Yes _______ No

57. If beds are actually assigned to your program, how many are assigned by specialty?

Number	Specialty
	Pediatrics
	Surgery
	Medicine
	Obstetrics-Gynecology
	Psychiatry
	Other (please list)

58. Are the kinds of patients available to your program appropriate to the teaching objectives of the program? ________ Yes ________ No

59. Is there a special unit to which patients are admitted, or is there open admission on an open basis?

________ Admission is through a special unit
________ Admission is open

60. What special circumstances are associated with your program obtaining optimal numbers of appropriate patients? Please feel free to elaborate.

APPENDIX C

CLINICAL AFFILIATIONS QUESTIONNAIRE

1. Name of Program

2. Are the offices of private practitioners used as part of the residency training program?
________ Yes ________ No (If no, go on to Question 8)

3. If yes, how many private practitioners participate?

4. Do residents get compensated for the professional services performed in the offices of the private practitioners? ________ Yes ________ No

5. If yes, how do they get compensated?

6. Do participating private practitioners get compensated for their participation in the program? ________ Yes ________ No

7. If yes, how do they get compensated?

8. For each clinical affiliation (hospital, clinic, dispensary, public school, etc.) with your PMC residency program, please complete a separate page of the questions that follow.

Date questionnaire completed.

USE A SEPARATE PAGE FOR EACH AFFILIATION

A. Describe the affiliation. (Examples: (1) a 500 bed county hospital in an inner city area. Or (2) A rural clinic supported by Federal, state, and local funds.)

B. Percent of total PMC program in this affiliation ________%.

C. Percent of residents' total time in three year program spent in this affiliation _____%.

D. Percent of residents' time spent in:
Outpatient services ________% Inpatient services ________%

E. Do residents work with nurse practitioners? ________ Yes ________ No

F. Do residents work with physician assistants? ________ Yes ________ No

G. Total number of other residencies in this affiliation.

H. Total number of other residents in this affiliation.

I. Do you have any control over the training experiences of the residents in PMC in this affiliation? ________ Yes ________ No

J. If you do have control, what kind do you have? (Check all that apply)
________ Types of clinical experiences
________ Faculty appointments
________ Number of patients seen
________ Time spent in outpatient and inpatient service
________ Number of PMC residents participating
Others (please list)

K. How is the PMC residency program funded in this affiliation?

APPENDIX D

PROGRAM DIRECTORS QUESTIONNAIRE

1. Name of Program.

2. Name of Program Director.

PROGRAM BACKGROUND

3. RANK in order of importance who, or what, determines the number of residents in your program?

________ Number of patients
________ Number of beds
________ Number of qualified applicants
________ Department of Medicine chairman
________ Department of Pediatrics chairman
________ Department of Community Medicine chairman
________ Hospital Administration
________ Medical school dean
________ Hospital/medical school executive committee
________ Available space
________ Practice income
________ Stipend
________ State/municipal/county appropriations for number of residents
________ Other (please indicate)

4. Which of the following were helpful or presented difficulties in establishing your program? (check all that apply)

	Helped	Hindered
Medical school dean		
Medical school faculty		
Hospital administration		
Department of Medicine		
Department of Pediatrics		
Department of Community Medicine		
Hospital specialty staff		
Governing agencies (Health Planning, etc)		
Local medical society		
Other community medical care programs		
The community in general		
Other (please indicate)		

5. What specific problems did you encounter in starting your program and which problems continue? (check all that apply)

	Starting	Continue
Funding		
Administration support		
Obtaining faculty (FTE)		
Obtaining space		
Obtaining residents		
Obtaining support staff		
Adequate patient load		
Colleague hostility		
Community hostility		
Obtaining hospital beds		
Obtaining clinical affiliations		
Negative perception of PMC		
Others (please indicate)		

6. How were the problems resolved?

THE TRAINING PROGRAM

7. Do you have a formal, written set of objectives for your PMCR program?

________ Yes ________ No

8. If no, why were they not developed?

9. Have you developed a program plan (PERT, Flow Sheet, and the like)?

________ Yes ________ No

10. Is one of your overall goals to institutionalize your program?

________ Yes ________ No

11. How do you make use of your program objectives?

12. Who was, or will be, responsible for developing the objectives for the PMCR program? (check all that apply)

	Was	Will Be
Program Director		
Department of Community Medicine		
Department of Medicine		
Department of Pediatrics		
Dean of Medicine		
Hospital staff		
Program staff		
Special committee (composition)		
Other (please indicate)		

13. Do you have a formal, written syllabus or outline of the content of the program?

________ Yes ________ No

14. If no, why has it not been developed?

15. Who was, or will be, responsible for developing the syllabus? (check all that apply)

	Was	Will Be
Program Director		
Department of Community Medicine		
Department of Medicine		
Department of Pediatrics		
Dean of Medicine		
Hospital staff		
Program staff		
Special committee (composition)		
Other (please indicate)		

16. Is the first year of the residency program different than that in straight INTERNAL MEDICINE? ________ Yes ________ No

17. If yes, how is it different?

18. If no, why is it not different?

19. Is the second year of the residency program different than that in straight INTERNAL MEDICINE? ________ Yes ________ No

20. If yes, how is it different?

21. If no, why is it not different?

22. Is the third year of the residency program different than that in straight INTERNAL MEDICINE? ________ Yes ________ No

23. If yes, how is it different?

24. If no, why is it not different?

25. Is the first year of the residency program different than that in straight PEDIATRICS? ________ Yes ________ No

26. If yes, how is it different?

27. If no, why is it not different?

28. Is the second year of the residency program different than that in straight PEDIATRICS?

29. If yes, how is it different?

30. If no, why is it not different?

31. Is the third year of the residency program different than that in straight PEDIATRICS? ________ Yes ________ No

32. If yes, how is it different?

33. If no, why is it not different?

34. Do you have a fourth year in your PMCR program?

________ Yes ________ No

35. If you do have a fourth year, what activities go on in that fourth year?

36. If there is no fourth year, would you like to have one?

________ Yes ________ No

37. If you would like to have a fourth year, what would you like to include in that fourth year?

38. What do you consider the prospects of a fourth year eventually being added on to your PMC residency program?

________ Highly likely
________ Most likely
________ Highly unlikely
________ Most unlikely
________ Impossible to say

39. Who will determine whether you do or do not add on a fourth year to the PMCR program?

40. Please indicate the number of weeks residents spend in each activity by year. If time is not spent in weeks, please indicate the percent of time spent in each activity.

YEAR 1

	Medicine		Pediatrics		Family Medicine
Activity	PMC	Straight	PMC	Straight	
Ward Medicine					
Ward Pediatrics					
Outpatient Services					
Specialties					
Nursery (Newborn)					
Special Primary Care Activity					
Electives					
Community Hospitals					
Community Clinics					
Community Social Agencies					

YEAR 2

	Medicine		Pediatrics		Family Medicine
Activity	PMC	Straight	PMC	Straight	
Ward Medicine					
Ward Pediatrics					
Outpatient Services					
Specialties					
Nursery (Newborn)					
Special Primary Care Activity					
Electives					
Community Hospitals					
Community Clinics					
Community Social Agencies					

YEAR 3

	Medicine		Pediatrics		Family Medicine
Activity	PMC	Straight	PMC	Straight	
Ward Medicine					
Ward Pediatrics					
Outpatient Services					
Specialties					
Nursery (Newborn)					
Special Primary Care Activity					
Electives					
Community Hospitals					
Community Clinics					
Community Social Agencies					

41. Which of the PMC residents (IM = Internal Medicine—P = Pediatrics) provide the following patient services?

	PG1	PG2	PG3	PG4
General care to adults				
General care to children				
Prenatal care				
Postnatal care				
Deliveries				
Gynecological care				
Psychiatric care (depression, anxiety, etc.)				
Minor surgery (please indicate)				
Continuity of care				
Total family care				

42. What do you consider the truly significant difference(s) between the PMC residency training program and the straight INTERNAL MEDICINE?

43. What do you consider the truly significant difference(s) between the PMC residency training program and straight PEDIATRICS?

FUNDING

44. What was the total cost of operating the PMC residency program during the academic year 1976-1977? $__________

45. Level of funding for your PMC Program anticipated for academic year 1977-78?
$__________

46. How would you break that down?

_______% Stipends
_______% Faculty and consultant salaries
_______% Support staff
_______% Space rental
_______% Equipment and supplies
_______% Insurance (liability and other)
Other (please indicate
_______%
____

47. Did the cost of operating the program during the most recent completed year exceed your income?

________ Yes ________ Broke even ________ Showed a profit

48. If you did exceed your income, what were some of the unexpected costs (e.g., insurance) and how were they met?

Unexpected Costs How (If) Met

49. Do you foresee any changes in the level of dollar support of your program?

________ Yes ________ No

50. If you do foresee changes in the level of dollar support, do you expect an increase or decrease in support and from what source?

Source Increase Decrease

51. Other than potential decreases in general financial support, what do you consider some of the potential threats to the financial solvency of the program?

________ Increased resident stipends
________ Malpractice insurance premiums
________ Medicare and Medicaid reimbursement policies
  ________Ambulatory care
  ________Hospital care
________ Increased consultant costs
________ Decreased patient loads
Others (please list)
____
____

52. What was the total amount of your RWJF (Federal) grant?

$________ # of years ________

53. What percent of the RWJD funds were spent for the following:

________% Stipends
________% Faculty salaries
________% Clerical staff
________% Space rental
________% Equipment and supplies
________% Evaluation of program
Other (please indicate
________%
________%

54. If you had not obtained funds from the RWJF (Federal Government) would this institution have initiated a primary care residency program?

______ Yes ______ No ______ Cannot say. Really do not know.

55. If this institution had gone on its own and developed a PMCR program, how do you think the program would have been funded?

56. Please identify any areas in the operation of your program which have resulted in costs different from those projected.

		Costs Significantly Lower Than Projected	Costs Somewhat Lower Than Projected	Costs Incurred As Projected	Costs Somewhat Higher Than Projected	Costs Significantly Higher Than Projected
a.	Establishing and maintaining Primary Care facilities	1	2	3	4	5
b.	Maintaining/automating patient records	1	2	3	4	5
c.	Malpractice insurance for residents and/or faculty	1	2	3	4	5
d.	Instructional materials and equipment (AV, etc.)	1	2	3	4	5
e.	Administrative and support staff salaries	1	2	3	4	5
f.	Resident salaries and fringe	1	2	3	4	5
g.	Faculty salaries	1	2	3	4	5
h.	Other (please specify)_______	1	2	3	4	5
i.	_______________	1	2	3	4	5

57. Please describe anticipated changes from current costs in the following areas over the next three years.

			Analytical Costs		
		Decrease	No Change	Moderate Increase (inflation)	Significant Increase (program expansions/new requirements
a.	Establishing and maintaining Primary Care facilities	1	2	3	4
b.	Maintaining/automating patient records	1	2	3	4
c.	Malpractice insurance for residents and/or faculty	1	2	3	4
d.	Instructional materials and equipment (AV, etc.)	1	2	3	4
e.	Administrative and support staff salaries	1	2	3	4
f.	Resident salaries and fringe	1	2	3	4
g.	Faculty salaries	1	2	3	4
h.	Other (please specify)				
	____________________	1	2	3	4

58. Information requested for this question is available in your AMA Council of Medical Education application for establishing a residency in primary medical care. The data are available on page 3 of the AMA application. Please provide data for the 1976-1977 training year.

Specialty	# of Beds	# of Annual Discharges	Is this service used in the teaching of Primary Care Residents?	# of Patient Visits Per Month	Do Primary Care Residents Serve in these clinics?
Family Practice					
Internal Medicine					
OB/GYN					
Pediatrics					
Psychiatry					
Surgery					

APPENDIX E

INTERVIEW SCHEDULE

ATTITUDES TOWARD PRIMARY MEDICAL CARE RESIDENTS, PROGRAMS, AND STAFF

1. Name of Institution.

2. Department.
________ Straight Medicine
________ Pediatrics
________ Family Medicine
________ Other

3. Title and Rank.
________ Departmental Chairman
________ Professor (or equivalent)
________ Associate Professor (or equivalent)
________ Assistant Professor (or equivalent)
________ Instructor
________ Chief Resident
________ Resident
________ Intern
________ Other

4. Have you had any professional contact with a primary medical care resident?
________ Yes ________ No ________ Cannot say

5. If "no", why not?

6. If "cannot say", why?

IF "NO" OR "CANNOT SAY", MOVE ON TO QUESTION 12

7. If "yes", how many primary medical care residents have (do) you known?

8. In what setting have you known them?
________ Clinics
________ Wards
________ Consultation
________ Grand Rounds
________ Conferences
________ Other (i.e. socially, emergency room)

9. What differences do you see in the primary medical care residents as contrasted to those in ____________________ at the same level of training in the following four areas?

Can't
say less equally more
____ Are the primary care residents ___ ______ ____ clinically skilled?
____ Are the primary care residents ___ ______ ____ socially oriented?
____ Are the primary care residents ___ ______ ____ interested in clinical research?
____ Are the primary care residents ___ ______ ____ knowledgeable in the science of medicine?

10. To the extent that one can generalize, as clinicians, how do you compare the primary medical care residents with those in ________________________?

________ Not as good
________ Equal
________ Better
________ Cannot say

11. Other than what we have discussed, do you see the primary medical residents as being in any way "different" from residents in ___________________? If so, how are they "different"?

Interviewer says: WE HAVE DISCUSSED THE PRIMARY CARE RESIDENTS, NOW LET'S DISCUSS THE PRIMARY CARE RESIDENCY PROGRAM ITSELF.

12. To what extent are you familiar with the content of the primary medical care residency program?

________ Not at all
________ Somewhat
________ Quite familiar
________ Most familiar

13. If "not at all" why not?

(IF "NOT AT ALL" MOVE ON TO QUESTION 15)

14. What differences do you see in the primary medical care residency program as contrasted to the _____________ in the following nine areas?

Can't
say
____ Is the PMC residency program ___ ______ ____ outpatient oriented?
less equally more
____ Does the PMC program offer _____ ____ ____ outpatient experiences?
fewer equal more
____ Is the PMC program ___ ______ ____ inpatient oriented?
less equally more
____ Does the PMC program offer _____ ____ ____ inpatient experiences?
fewer equal more
____ Does the PMC resident have a ______ ______ ______ patient load?
smaller similar greater
____ Is the PMC residency program ___ ______ ____ flexible?
less equally more

		less	equally	more	
____	Is the PMC residency	____	____	____	socially oriented?

		less	equal	more	
____	Does the PMC residency program place	____	____	____	emphasis on developing clinical skills?
____	Does the PMC residency program place	____	____	____	emphasis on the science of medicine?

Interviewer says: WE HAVE DISCUSSED THE PRIMARY MEDICAL CARE RESIDENTS AND THE RESIDENCY PROGRAM, NOW LET'S DISCUSS THE PRIMARY CARE RESIDENCY TEACHING STAFF.

15. To what extent are you familiar with the teaching staff in the primary medical care program?

    ________ Not at all
    ________ Somewhat
    ________ Most familiar

16. If "not at all" why not?

    (IF "NOT AT ALL" PROCEED TO ITEM 19)

17. What differences do you see in the teaching staff of the primary medical care residency program as contrasted to those in ____________________?

Can't say		less	equally	more	
____	Is the PMC teaching staff	____	____	____	clinically oriented?
____	Is the PMC teaching staff	____	____	____	socially oriented?
____	Is the PMC teaching staff	____	____	____	interested in clinical research?
____	Is the PMC teaching staff	____	____	____	knowledgeable in the science of medicine?

18. Other than what we have discussed, do you see the primary medical care residency teaching staff as being different from other teaching staff, say, medicine, pediatrics, surgery, and the like? If so, how are they different?

Interviewer says: IF YOU HAVE TIME, I WOULD LIKE TO HAVE SOME INFORMATION ON YOUR DECISION TO PURSUE YOUR SPECIALTY.

19. (If an M.D.) What medical school did you attend?

20. At what point did you decide to go into ________________________ training?
    (check one) name of residency specialty

________	Before med school	________	During another residency
________	In med school	________	In Military Service
________	While in private practice	________	In Nat'l Health Corps
________	Upon graduation	________	Cannot really pin it down

21. Was there any particular event or incident that triggered your decision to go into ________________ ? ________ Yes ________ No
((residency specialty)

If "yes", what was the event?

22. What were the reason(s) for selecting ________________? (check one or more)
(residency specialty)

________ No reason at all
________ Appears to be professionally satisfying
________ Society needs ________________ practitioners
(residency specialty)
________ Appears to be personally satisfying
________ Best way to utilize and apply my interests and talents
________ Better opportunities for locating (geographically) professionally
________ Inspired by others in the discipline
________ Other (cite)

23. What were your reason(s) for selecting this particular program? (check one or more)

________ Geographic location
________ Reputation
________ Had friends in it
________ Other (cite)
________ Provides a varied training program
________ Best fitted my image of a desirable profession
________ No apparent reason

Thank you.

APPENDIX F

INTERVIEW SCHEDULE

INSTITUTIONALIZATION OF PROGRAM

1. What were some of the reasons for starting a primary medical care residency at this institution?

2. Was there, and does there continue to be, a strong identifiable force for initiating and continuing the primary medical care residency?

3. Who was for, and who was against, starting the primary medical care residency? Any particular clinical departments?
   FOR:
   AGAINST:

4. Have there been any significant changes in attitudes of people who were for and against the primary medical care residency?
   FOR:
   AGAINST:

5. For those who were against the program (if any) do you feel their opposition was mainly a function of inter-departmental competition for funds in what is perhaps a steady-state budgetary situation, or was it due to a definite philosophical difference of opinion?

6. Now that the program is an accomplished fact, what is the general response to it? (Community, medical students, clinical departments, etc.)

7. If you could attribute the success (or failure) of the program to one cause, what would be that cause?

8. If Robert Wood Johnson Foundation funds were not available, would you have initiated a primary medical care residency?
   ________ Yes ________ No
   IF YES, HOW?
   IF NO, WHY NOT?

9. Are there any identifiable forces working for or against "institutionalization" of the program after Robert Wood Johnson Foundation funding ends?
   FOR:
   AGAINST:

10. When Robert Wood Johnson Foundation funding of the program ends, do you plan to stabilize, decrease, or increase the size of the program, or do you plan to discontinue it?

11. Who (or how) will make the decision to (stabilize, decrease, increase, or discontinue) the program?

12. The Robert Wood Johnson Foundation funds are partially supporting salaries, expendable supplies, travel, and in some case space rental. How do you plan to replace these funds when Foundation support ends?

13. If it becomes necessary to cut out certain items or activities connected with the residency because of the lack of funds, what items or activities are most likely to be sacrificed?

14. If the program is dropped, some institutional funds may be released for other uses. Who will benefit from this possible windfall?

15. (If the program is increased in size) Where will you get:
    A. PATIENTS?
    B. STAFF?
    C. SPACE?
    D. FUNDS?

16. In terms of developing, strengthening, or continuing all of your residencies, what priority have you placed on the primary medical care residency?

17. Are there any plans to establish a separate department of primary medical care? If there are, what are they?

18. Do you have any additional thoughts or comments regarding your primary medical care residency?

APPENDIX G

COST AND FUNDING QUESTIONNAIRE

1. Name of Institution.

2. Name of Respondent.

3. Title of Respondent.

4. Telephone number of Respondent.

5. What was the total operating cost of the Primary Care Residency program in FY 76–77? $__________

6. Approximately how much in the way of initial capital expenditures were required for constructing/renovating and equipping facilities for use in the Primary Care Residency program? $__________

7. What was/were the source(s) of funds used to set up the Primary Care Residency Program?

Hospital funds	1
Federal grant	2
State grant	3
University funds	4
Foundation grant	5
Private donation	6
Community contributions	7
Other __________ (please specify)	8

8. Over the years of operation of this residency program, please indicate the major trends in sources of financial support from all sources of funding.

	Increasing proportion of program budget	Constant proportion of program budget	Decreasing proportion of program budget	Fluctuating proportion of program budget	Not applicable
a. Primary Care Program patient care revenue (including all third party reimbursement)	1	2	3	4	5
b. State government grants earmarked for PCR program through hospital, medical school, or other	1	2	3	4	5
c. Federal Grant for training in primary care	1	2	3	4	5
d. Other Federal grants	1	2	3	4	5
e. Community contributions (individuals or organizations)	1	2	3	4	5
f. Private foundations	1	2	3	4	5

g. Faculty Practice Plan	1	2	3	4	5
h. Hospital funds (excluding sources cited above)	1	2	3	4	5
i. Affiliated hospital funds (if applicable)	1	2	3	4	5
j. University funds (excluding sources cited above)	1	2	3	4	5
k. Other ____________ (please specify)	1	2	3	4	5

9. For the next three years of operation of this residency program please indicate the projected trends in sources of financial support from all sources of funding.

	Increasing proportion of program budget	Constant proportion of program budget	Decreasing proportion of program budget	Fluctuating proportion of program budget	Not applicable
a. Primary Care Program patient care revenue (including all third party reimbursement)	1	2	3	4	5
b. State government grants earmarked for PCR program through hospital, medical school, or other	1	2	3	4	5
c. Federal grant for training in primary care	1	2	3	4	5
d. Other Federal grants	1	2	3	4	5
e. Community contributions (individuals or organizations)	1	2	3	4	5
f. Private foundations	1	2	3	4	5
g. Faculty Practice Plan	1	2	3	4	5
h. Hospital funds (excluding sources cited above)	1	2	3	4	5
i. Affiliated hospital funds (if applicable)	1	2	3	4	5
j. University funds (excluding sources cited above)	1	2	3	4	5
k. Other ____________ (please specify)	1	2	3	4	5

10. Please describe the financial contribution of this hospital for the Academic Year 1977–78 as compared to the year prior for the following Primary Care Residency Program costs.

	Hospital Contribution			
	Contribution increased	Contribution decreased	Contribution remained the same	Not applicable
a. Resident salaries	1	2	3	4
b. Faculty salaries	1	2	3	4
c. Administrative and support staff salaries	1	2	3	4
d. Equipment and supplies	1	2	3	4
e. Other program operating costs	1	2	3	4

11. (COMPLETE THIS QUESTION ONLY IF PROGRAM IS UNIVERSITY-BASED.) Please describe the financial contribution of the university medical center for the Academic Year 1977–78 as compared to the prior year for the following Primary Care Residency Program costs.

	University Medical Center Contribution			
	Contribution increased	Contribution decreased	Contribution remained the same	Not applicable
a. Resident salaries	1	2	3	4
b. Faculty salaries	1	2	3	4
c. Administrative and support staff salaries	1	2	3	4
d. Equipment and supplies	1	2	3	4
e. Other program operating costs	1	2	3	4

12. For FY 76-77, please indicate the amounts of money obtained from the following sources for operating the Primary Care Residency Program (exclusive of undergraduate or continuing education activities).

Source of Income (Note: See Definition I, attached)	Total income for period
a. Patient Revenues—Primary Care Setting	
A. (Describe)	$ ________
B. (Describe)	$ ________
C. (Describe)	$ ________
b. State Government Grants (earmarked) for the Primary Care Residency Program	$ ________
c. Federal Grant for Training in Primary Care Medicine	$ ________
d. Other Federal Grants	$ ________

e.	Community Contributions (individuals or organizations)	$
f.	Private Foundations	$
g.	Faculty Practice Plan	$
h.	Hospital Funds (excluding sources cited above)	$
i.	Affiliated Hospital Funds (if applicable)	$
j.	University Funds (excluding sources cited above)	$
k.	Other ____________________ (Please specify)	$
	TOTAL	$

13. For FY 76-77, please provide breakdown of the cost of operating the Primary Care Residency Program (exclusive of undergraduate or continuing education activities):

	Sources of Expense (Note: See Definition II, attached)	Total expenditure for period
a.	Administrative and Support Staff Salary Expense	$
b.	Faculty and Teaching Consultant Salary Expense	$
c.	Resident Stipend Expense (inclusive of prerequisites)	$
d.	Other Direct Expenses (e.g., supplies, drugs)	$
e.	Other Operating Expenses ____________________ (please specify)	$
	TOTAL	$

14. What was the operating income and expense of your hospital (net income from service to patients as well as net operating income) in each of the last three fiscal years? That is, the hospital's operating income/expense schedules for FY 73-74, FY 74-75, and FY 75-76.

These items can be found in the Medicare Cost Report, Form SSA-1563, page 7, Statement of Income and Expenses (for reporting periods prior to 1975) or Form SSA-2552, pp. 33-34, Worksheets G-2, G-3 (for reporting periods after 1975), or their equivalents.

NOTE: PHOTOCOPIES OF THE FORMS CITED ABOVE MAY BE SUBMITTED IN RESPONSE TO THIS QUESTION.

DEFINITIONS

DEFINITIONS - I

A. **Patient Revenues—Primary Care Center**—fees for services received from patients of the Primary Care Center in the form of out-of-pocket payments; Blue Cross/Blue Shield payments; Medicaid/Medicare; all other third party reimbursements.

B. **State Government Grants**—(earmarked) for the Primary Care Residency Program —state funds specifically allocated to the Primary Care Residency Program (including grants channelled through the hospital, medical school, or other institution).

C. **Federal Grant for Training in Primary Care Medicine**—refers specifically to monies received pursuant to Section 767 of the Comprehensive Health Manpower Training Act of 1971 (P.L. 92-157).

D. **Other Federal Grants**—Federal funds received for specific Primary Care related programs such as Medex training, Preceptorship, Curriculum Development, and Research.

E. **Community Contributions** (individuals and organizations)—funds provided by local groups, fund drives, individual donations, and bequests in support of the Primary Care Residency Program.

F. **Private Foundations**—funds received from foundations (local, state, or national) specifically for development, establishment, operation or improvement of Primary Care Residency training programs.

G. **Faculty Practice Plan**—fees paid to Primary Care Practice faculty for patient services rendered and placed in a special fund to offset routine or special costs of the Primary Care Residency Program (e.g., equipment purchase, continuing education training).

H. **Hospital Funds** (excluding previously cited sources)—this category includes support given to the Primary Care Residency program from the hospital operating fund, endowment funds, etc.

I. **Affiliated Hospital Funds** (if applicable)—contributions made toward the Primary Care Residency Program from hospitals affiliated with the institution with primary responsibility for the program.

J. **University Funds** (excluding sources cited above)—contributions from the University Medical School budget to offset the cost of Primary Care Residency Program. These could be in the form of faculty salaries, resident stipends, equipment, etc.

K. **Other**—other funds used to support the Primary Care Residency Program from sources not identified above.

DEFINITIONS - II

A. **Administrative and Support Staff Salary Expense**—salary and payroll expense (e.g., FICA) for individuals directly involved with administration and operation of the Primary Care Residency Program. Includes such individuals as the Director of the program, clerical staff, etc.

B. **Faculty and Teaching Consultant Salary Expense**—salary and payroll expense for full-time and regular part-time faculty and fees and/or honoraria paid to teaching consultants.

C. **Resident Stipend Expense**—stipend and related payroll expense for residents enrolled in the Primary Care Residency Program plus fringe benefits including health insurance, malpractice insurance, housing (if applicable), etc.

D. **Other Direct Expenses**—includes minor equipment, supplies, drugs, etc.

E. **Other Operating Expenses**—expenses not covered by the definitions cited above (e.g., overhead, maintenance, utilities, telephone).

APPENDIX H

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* For Federal Study only

** Federal Project Officer

APPENDIX I

Dear :

Hopefully for the last time I should like to ask your assistance in our study of the Robert Wood Johnson Foundation Primary Care Residency Program. We are at the stage where a site visit is essential to conclude gathering the data, and I need your help in making the necessary site visit arrangements.

Specifically, I would deeply appreciate it if you or someone on your staff could set up the following:

1) An appointment with the medical school dean. Forty to forty-five minutes should be adequate time. If the dean is not available, then an associate dean thoroughly familiar with your primary care program will do.

2) An appointment with a fiscal officer who can respond to questions regarding the funding of the primary care program. I should like to see that person as soon as possible on my arrival. Five minutes time should be adequate since I plan to leave a questionnaire with that individual and pick it up upon concluding the site visit.

3) An appointment with you as the program director. Again, this should be as soon as possible upon my arrival. Thirty minutes should do so that I may find out from you if any problems regarding the site visit have arisen. I will also leave with you one final questionnaire.

4) Appointments with at least

    (a) four residents in straight medicine not part of your primary care program;
    (b) four residents in straight pediatrics not part of your primary care program; and
    (c) four residents in surgery.

    These residents should have some knowledge or professional acquaintance with your primary care residents. If your program takes place in several hospitals and/or clinics, please select residents from all clinical settings used. Fifteen minutes per resident should do. If you can recruit more than four in each residency that would be great.

5) Separate appointments with at least four nurses who have professional contact with residents in primary care. If your program also includes pediatrics primary care, at least four nurses who have professional contact with residents in pediatrics primary care and straight pediatrics. Again, fifteen minutes per nurse should be adequate, and if more than four can be recruited it would be of considerable additional value.

6) An appointment with the director of the clinics through which primary care, straight medicine, pediatrics, and surgery residents rotate. Again, if more than on clinic is used, then I should like to see all the directors. Once more, all I need is fifteen minutes with each individual.

7) Separate appointments with at least

    (a) four senior clinical medical staff who have contact with primary care and straight medicine residents, and
    (b) if your primary care program includes pediatrics, four senior clinical pediatrics staff who have contact with the primary care pediatrics and straight pediatrics residents.

    Fifteen minutes with each will do.

8) Appointments may overlap since there will be three of us making the site visit and we will not work as a threesome.

I am fully aware that this is asking a great deal of you, and I appreciate it beyond words.

With personal regards.

Sincerely,

Edwin F. Rosinski
Professor

EFR/rba

APPENDIX J

CHARACTERISTICS OF THE INTERVIEWEES

Data were gathered through interviews with a variety of staff associated with the primary care training programs. A letter was sent several weeks prior to the intended site visit in which the program director was asked to arrange interviews with the medical school dean, the program director, the director of clinics, groups of non-primary care residents (internal medicine, pediatrics, surgery), clinical staff and nurses who have frequent contact with the primary care program, training staff, and primary care residents. A copy of the letter is included in Appendix I.

Site visits to the fifteen programs eventually came to involve interviews with 332 persons associated with the training program, all of whom were selected by the program directors or other administrators associated with the local program. The interviewees are described in Appendix J1 and Appendix J2. The sample is described by title or job function and by site in Appendix J1, where it is seen that 22 department chairmen, 115 professors, 121 residents in non-primary care programs, and 74 others were interviewed. The titles and departmental affiliation of the "other" interviewees are given in Appendix J2. Some collapsing of departmental names and titles was done where the names differed, but the function was similar.

The departmental affiliation of the interviewees is given in Appendix J3. Those departments classified as "other" have been listed in Appendix J2 in the interest of completeness.

APPENDIX J1

NUMBER OF INDIVIDUALS INTERVIEWED BY TITLE OR RANK AND BY PROGRAM

	Dept. Chairman	Assoc. Full Prof.	Asst. Prof. Instructor	Resident	Other	Total
Baylor University	-	3	3	7	7	20
Boston University	1	4	12	12	1	30
Dartmouth University	2	1	8	6	6	23
University of Florida*	-	-	-	-	8	8
George Washington	2	0	2	4	4	12
Harvard University	1	1	7	7	5	21
Michigan State University	1	5	3	3	4	16
Missouri-Kansas City	3	5	1	18	5	32
Montefiore Hospital	1	3	2	7	4	17
University of Pittsburg	1	6	6	8	6	27
University of Rochester	3	8	2	12	7	32
California-Los Angeles	1	8	2	12	6	29
California-San Francisco	3	6	5	11	9	34
Washington University	2	1	-	5	1	9
Total**	22	50	65	121	74	332

* The Interview Schedule was not entirely appropriate at the University of Florida due to the variant nature of the program. Some 30 participants were interviewed at Florida, but the interviews were open-ended and copious notes were taken.

** These respondents include all interviewees who responded to the Interview Schedule (See Appendix E). In addition, program directors, co-directors, deans, chairmen, and a variety of other program participants were interviewed.

APPENDIX J2

DEPARTMENTAL AFFILIATIONS, TITLES, AND RANKS OF "OTHER" INTERVIEWEES

"Other" Departmental Affiliations

	Foundation	Federal	Total
Surgery	15	5	20
Primary Medical Care	12	5	17
Psychiatry	11	6	17
Nursing	9	1	10
Ob/Gyn	3	1	4
Adult Medicine	2	-	2
Family Practice	2	-	2
Adolescent Medicine	1	2	3
Health Care Services	1	5	6
Outpatient Department	1	4	5
Rheumatology	1	-	1
Hematology	1	1	2
ENT	1	-	1
Emergency Medicine	1	2	3
Community Medicine	-	2	2
Pulmonary Medicine	-	1	1
Dermatology	-	2	2

"Other"Titles or Ranks

Nurse Practitioner	9	3	12
Nurse Clinician	9	2	11
Nurse	6	3	9
Head Nurse	6	6	12
Director of Medicine	3	-	3

APPENDIX J2 CONTINUED

"Other" Titles or Ranks

	Foundation	Federal	Total
Chief Resident	4	1	5
Fellow	4	2	6
Docent	3	-	3
Pediatric Nurse	3	-	3
Case Aid	2	-	2
Nursing Supervisor	-	1	1
Clinics Director	1	1	2
Head, Pediatric Cardiology	1	-	1
Director of Nursing	1	1	2
Dean of Nursing	1	-	1
Physician Assistant	1	1	2

APPENDIX J3

NUMBER OF INDIVIDUALS INTERVIEWED BY DEPARTMENT AFFILIATION AND PROGRAM

	Straight Medicine	Pediatrics	Family Medicine	Other	Total
Baylor University	10	3	-	7	20
Boston University	8	9	-	13	30
Dartmouth University	6	10	-	8	24
University of Florida	-	-	-	8	8
George Washington	7	-	-	5	12
Harvard University	10	-	-	11	21
Michigan State University	8	1	-	7	16
Missouri-Kansas City	13	5	2	12	32
Montefiore Hospital	13	-	-	4	17
University of Pittsburg	16	-	-	11	27
University of Rochester	13	8	-	12	33
California-Los Angeles	14	-	-	5	19
California-San Francisco	11	11	-	12	34
Washington University	6	2	-	1	9
Total	135	49	2	116	302

APPENDIX K

RESPONSES IDENTIFYING INCIDENTS OR EVENTS WHICH CAUSED RESIDENTS TO SELECT PRIMARY MEDICAL CARE

Good experience at comprehensive health center working with multispecialty staff.

Talks with Chairman of Medicine.

I was contacted by Chairman of Department of Medicine and asked to apply to program.

Availability of greater scope in educational experience, i.e., gynecology, dermatology, neurology, pediatrics, in addition to more out-patient care and supervised evaluation of ambulatory patient.

My experiences in medical school confirmed my pre-medical school desires to be a primary care physician.

Interest in comprehensive medicine derived from psychiatric consultation in the general hospital.

Mistakes made by specialists in care of member of family.

Always wanted to go into primary care.

Based on experience as DHEW Medical Officer - where I obtained different perspective of medical care.

My decision a number of years ago to settle in a Latin American country in a poverty area.

Miserable failure of hospital experience to relate to humanistic needs of patients. Every other specialty seemed inadequate.

Identification with family medicine residents.

Summer preceptorship with uncle who is family M.D.

Summer clerkship with Family Practice.

Grew up in small town with GP as my doctor.

Best experience in two primary care electives reinforced my leaning toward a primary care career and helped cement the decision.

My disillusionment with hospital-based emphasis on medical education and the inability of many of my teachers to see patient problems beyond a purely organic basis.

Externships with general practitioner (3 different experiences during summers).

Amalgam of my life experiences. I wanted to combine science and humanism in a pragmatic way.

Kicked out of my straight medical program (actually, I was not asked back for the second year), was bound to stay in town, and this residency was available and seemed attractive.

Discouragement over lack of primary output care available in straight internal medicine.

The lack of coherent care for patients; i.e., patients went to multiple specialists who gave only care in their specialty and, in effect, disregarding basic concerns of the patient.

I convinced myself that I could offer more for orientals and people who are in need of good medical care as a primary doctor.

I came to see that I was not satisfied in a traditional program wherein the nature of the illness was of vastly greater importance than the nature of the patient.

Elective at a child health care center.

Preceptorship with private pediatrician during my sophomore year in medical school.

My plans have always been oriented towards primary care, though during my medical school that phrase was not in vogue.

Close association with Chairman of Community Medicine. In helping develop the curriculum for a "NEW" department and in working in a health center I decided I wanted a general internal medicine practice.

Took a year off from medical school (between 2nd & 3rd years)—worked in public health/community-based psychiatry.

Familiarity

Excellent inpatient experience; varied and somewhat sicker patient population; strong subspecialty rotations.

Provides a varied training program: 8 months medicine, 4 months surgery.

When I was forced to sit in a separate waiting room while waiting to see a specialist; when I found that I enjoyed working with people and families rather than a disease or organ; when I became committed to the welfare of people rather than my own professional gain; when I realized that more than 85% of most medical needs can be dealt with on a primary level.

Spending time during medical school in my father's office.

The following statements were obtained from residents in the Federally supported residencies. Statements of residents in the Boston program are not included here but are part of statements above dealing with the Robert Wood Johnson Foundation supported residencies. Repeating them here would enable the reader to identify those statements directed toward the Boston program.

I applied for straight medicine and did not match. However, at the time the primary care program here seemed just what I had always wanted with emphasis on outpatient medicine and opportunity to have pediatrics and psychiatry, for example.

Availability of primary care training through an internal medicine program.

Good experience at comprehensive health center working with multispecialty staff.

Talks with chairman of medicine.

I was contacted by the chairman of the Department of Medicine and asked to apply to the program.

Availability of greater scope in educational experience, i.e., GYN, dermatology, neurology, pediatrics in addition to outpatient care and supervised evaluation of ambulatory patients.

Experience in rural Mexico. Experience with Kellogg Foundation/PAHO in community health organization.

Had been interested in preventive medicine residencies, but stumbled upon the social medicine program and it seemed to best suit my desire to combine clinical medicine with preventive medicine, health planning and education.

Background as a New York Puerto Rican and desire to do pediatrics in my community.

It was the observation that traditional training programs didn't train us in areas such as continuity of care, health promotion, and preventive medicine.

The realization that subspecialty medicine does not meet the needs of the people I wish to deliver health care to.

The nature of care in hospitals and the realization that hospitals promote illness rather than health.

Dissatisfaction with the traditional medical model as exemplified by my medical school.

Reading different articles about Primary Care. Talking to a friend who was interested in starting a clinic in an area that was underserved medically and socially and feeling that it was my duty to serve that population.

A clear cut need to synthesize an interest in psychiatry and internal medicine and to deal with the interface between the two which developed from OPD experience in a community health center and an adolescent medicine clinic.

Being in a social science school I became aware of many social problems. I did some work making observations of Public Health Services. I started school with a commitment toward the public.

The Primary Pediatric Program was the only pediatric training program available to me at that time. I was anxious to take pediatric training, which was very similar to primary pediatric program in many ways.

A Public Health Scholarship.

APPENDIX L

MISCELLANEOUS COMMENTS: OTHER REASONS FOR SELECTING A PARTICULAR PRIMARY CARE TRAINING PROGRAM

Good internal medicine department

Not best, but had most of desirable characteristics.

Good ratio pediatrics/medicine.

Wanted to be at a large city hospital providing care for inner-city people.

Only program that was accessible for an FMG (to my knowledge)—better to say that was willing to educate one.

Knew program director.

Program was just beginning—therefore, hoped to have input into development of program.

Opportunity for faculty position.

Relaxed program.

Offered unique combination of opportunities to do some pediatrics/primary care internal medicine electives in gynecology, orthopedics, psychiatry, and dermatology.

Ambulatory care elective in first year.

Was already a resident at (name of hospital).

Combined work in a community (city) hospital with a varied ambulatory experience.

Excellent internship in same program—challenge of new program.

Specific research in psychosomatic medicine.

Liked the low-keyed, high quality features.

Few openings in second year; this was one of the few.

Actually it was number three on my matching list on geographic grounds. I'm glad I've been here though.

Computer matching—it was one of several desirable programs.

In same city I started my previous internal medicine residency.

Opportunity for independent elective time as I had completed two years as a GMO in the USAF. Also, they offered me a spot!

Only one to accept me.

Recommended by medical school counsellors and Dr. (name of program director).

Excellent program.

Recommended by an attending physician while I was in medical school.

Flexibility of program to enable me to pursue own interests.

Transferred from traditional pediatrics residency for third year training in primary care.

Represented continuation of my experience at (name of university).

Opening available at a time when I was looking for a residency.

Offered by hospital to which I was affiliated through medical school.

APPENDIX M

RESPONSES OF RESIDENTS INDICATING HOW THEY FEEL ABOUT THE TRAINING EXPERIENCE

Not enough input from allied health personnel. Insufficient time for each patient. Lack of a nutritionist.

Expected more pediatric patients seen in outpatient continuity clinic. Unable to attend primary care seminars—time limitation and scheduling. In general feel more like a straight medical intern in many respects.

Not as much teaching and time to learn clinic medicine as I would have wished.

Main problems related to . . . hospital and (name of city) politically and financially.

The program has not the strength in numbers and allotment of faculty time and resources to quickly develop a strong independent curriculum. It is more clearly a subsidiary program than I expected.

Appalling lack of secretarial and nursing help in the clinics makes practice difficult.

Primary care program has broadened my scope of educational experience by permitting electives in other specialties of great use in ambulatory medicine. I have found in general, however, on ward rotations, that the attending staff is very oriented toward their sub-specialty and often cannot add appropriate degree of sophistication outside their subspecialty.

Had expected a more structured approach to the teaching of and research in psychosocial-economic factors in health care delivery.

Did not in fact provide team-learning; was unable to overcome or compete with stresses of in-house training program; health delivery setting in OPD actually deteriorated over time. Lack of interest or participation of (program leaders) and complete lack of decision making from trainee level: our only input, asked to be included in study data.

Not enough formal teaching has been offered in issues pertinent to ambulatory internal medicine.

Largely due to limitations of a city hospital (or at least our city hospital) re: money, adequate personnel. We are not able to be freed up enough to fully participate in primary care activities—clinics, conferences. We are all too busy in our regular work places to function at all as a group of people practicing and learning primary care.

Poor clinic set-up for primary care—both in terms of rendering service and learning about primary care. Good cross-over with 2 months in adult medicine.

Inadequate financial support and ancillary aid for outpatient care secondary to financial and economic status of . . . hospital.

In general, it has met my expectations; but I had hoped for a stronger tie between big in-hospital experience and my work at the neighborhood health center. I am usually unable to continue to follow my patients once they leave the hospital because they don't live in the catchment area of the . . . .

Very poor working conditions but they obey economical reasons of this particular hospital and not the training program itself.

The setting in which we receive our training in delivering primary care is quite understaffed and poorly organized. Very little ancillary service is provided and the number of patients that one can see while providing good care and learning, is quite limited.

I don't believe that the program fulfills many of its far-reaching goals. It has neither the staff or the money to provide what it claims to provide.

(Hospital based primary care center poorly organized making it difficult to provide good primary care.
"Team" participation in care not well integrated until 3rd year.
Psychological aspects of care appropriately were emphasized but mostly from a traditional adult psychiatric perspective without integration of other disciplines.

Overall, the experience was positive and enhanced my clinical training skills, however, I was hoping to learn how to organize the elements of medical care in order to provide optimal primary care and increase the number and type of intervention skills for complicated psychosocial problems. These last two items were not fully realized.

Unfortunately, I have been the first resident through the recently funded program at . . . and entered the program with a change in leadership in the department responsible for its administration. As a result, my program has been quite different than originally anticipated. During the first year I expected 6 months of medical subspecialties, but was a ward resident instead. In the second year, we had a 3 month seminar series of which 30-40%, optimistically, was valuable. At present I've been involved in a group practice in a community hospital, but mismanagement and constant misunderstandings between the medical school and community hospital have made the continuation of this part of the program highly unlikely. My feeling is that there is potential for a good program at . . . but serious reevaluations have to be made immediately to assure its viability.

(The department) that was responsible for organizing the program did not develop lectures in epidemiology, practice management and environmental medicine that it had promised.
(The department) showed no concern for individual goals within the program and in fact little commitment to the program at all!

Educational objectives presented to me were idealistic and have not been and will not be met before I finish this program; therefore, I do not feel completely comfortable and confident in doing what I feel a family practitioner should be doing.

Program has become less flexible but has improved in quality of experiences a great deal.

Unfortunately, the program did not look at primary care training as a rigorous experience requiring obtaining specific skills and acquiring a defined body of knowledge. Somehow, it is felt here (and elsewhere, in my experience) that primary care is basically human, patient-oriented care, alone. Skilled care is not particularly stressed, so that I know no more about many areas of "primary care" than my colleagues in straight medicine, many of whom are just as humane and patient-oriented as I am.

The stated general goals and specific educational objectives attracted me to the program but because of the newness of the program the implementation of the curriculum of the program was poor. Not enough work was done to set up specific educational opportunities to learn what I wanted.

Generally, I thought the program would have been better organized and the snags (interdepartmental affiliations) would have been worked out. The goals for our electives were not well specified with the departments. My 4 month experience in internal medicine was mainly in an emergency room. I did not feel comfortable handling many internal medicine problems once I started in the clinic and consequently have gone back almost entirely to clinic pediatrics. I thought there would be more emphasis (at least in a seminar form) on health care delivery systems.

As I expected with a new program, there is a need to define goals, responsibilities, and interdepartmental relationships.

The primary care internal medicine interns/residents are not considered co-equal by a majority of the traditional interns/residents/staff here.

Need more faculty support. Need better use of new health practitioners. Clinical material and teaching is excellent.

The greater breadth of my experience in the primary care tract, relative to a traditional internal medicine program has reinforced my commitment to combined in-house and ambulatory residencies in internal medicine.

Due to uncomfortable politics and bad planning coordination, the atmosphere is one of misunderstanding and resentment, and the actual in-hospital (as opposed to outlying facility) primary care training is virtually zero.

Teaching is more difficult in an out-patient setting.

Elective rotations not varied enough.

I had expected more well-supervised, well-taught experiences in ambulatory specialties outside the areas of traditional internal medicine, which a primary care provider needs to know—eg. better ophthalmology, ENT, etc.

A general lack of pathology at the primary care training site made it difficult to develop an adequate data base in internal medicine. The program did, however, establish a good data base in those subspecialties applicable to primary care.

I expected to come out qualified to pass the Internal Medicine Boards but with only 5 months to learn subspecialties like cardiology, pulmonary infectious disease, renal, GI, neurology, etc., I cannot believe that the Internal Medicine Boards would be passed. There is too much pediatrics and ward medicine.

Probably not sufficient teaching on the resident level. Too much newborn and neonatal training which I won't see in practice.

The program here is designed primarily to take up slots in the internal medicine program and the medicine clinic. The 3 month rotation through county hospital is very poor at best. The only good rotations are pediatrics and emergency room.

My expectations, a priori, for any program were unrealistically high. However, this program I would not switch for any other. It is a good program and a satisfying one.

Too narrow a clinical experience. Not a varied enough patient population.

Program too big with difficulty arranging my personal practice pattern. Would prefer smaller program. Also would like more precepting by faculty who are much involved in administration and research. Nevertheless, faculty very good teachers.

The faculty seems to be spending an increasing amount of time on foundation and government grants, and other paperwork, instead of teaching the residents.

If you are interested I'll send you essays which I've written on questions.

My "expectations" were met though I felt there were areas needing improvement—in our program particularly, a more structured approach to (1) orthopedic problems; (2) practice management; and (3) geriatrics (I was able to work out a satisfactory elective in geriatrics here).

Ambulatory experience as expected. Inpatient teaching weaker than expected.

Poor clinical training in medicine. Lack of general support for family medicine.

Feel I am well trained—however, the department here has been drifting without a chairman; therefore, the day to day quality has not really been as high as I would have liked.

Not enough patients on inpatient services (an objection to the hospital and not the general medicine program).

Depends on which expectations are considered. The quality of the teaching in the program and of its organization has been exceptionally excellent—more than I expected. However, the extent to which the usefullness of what I'm learning (especially on wards) depends on the presence of a base of advanced (and in the third world unobtainable) technology, is also more than I expected or wanted.

I had hoped, perhaps without reason, that we would be able to avoid the common plight of the medical clinics in many university centers: too great a population of patients "not suitable" for other clinics because their problems are deemed unidentifiable or "psychosomatic." Patients of this sort are an undeniable and major part of many (most?) internist's practices, but for training purposes must be limited if that program is to provide an equal alternative to traditional inpatient programs aimed at both the art and the science of medicine.

Could be a better teaching resident oriented program—its new and has growing pains.

No discrepancy, however an insufficient number of families were enrolled in the program during the year I spent in it. That apparently has changed since.

As the second year resident in the new program, (for me) the program offered no organized program. The patient population was extremely limited, and the attending staff was non-existent. I had expected at least those basic aspects of a teaching program.

Program went through 2 years of "growing pains" and is now "established." But conflicts with "straight" internal medicine department and pioneering the out-patient electives made my initiation slightly less rewarding than for our present residents. (All to be expected with a brand new program.)

Degree of illness and patient problems not what had expected.

The concept of primary care is very good and needed. I felt though, that the amount of time devoted to pediatrics and gynecology, and the amount of time spent in internal medicine, was not enough to meet my personal needs as far as trying to learn that field. Also I was disappointed that our pediatric experience included mostly toddler age with one of the three months being totally in the nursery. My concept would be more toward adolescent medicine as the pediatric emphasis. Since entering the program, my main interest has shifted more toward internal medicine and hence I would probably apply for (in hindsight) a straight internal medicine residency, though as stated, I still think the concept of primary care is good.

I was promised things by Dr. . . . which he had no intention of fulfilling. Now however, the situation has changed 180 degrees. The instructors are decent and approaching the expected competency; the facilities at the hospital are very nice. The training offers enough "outside" exposure in the private sector to allow for exposure to subspecialties. Though none are quite what I had expected and hoped for, I have learned things and experienced things I had no inkling of previously. A fair tradeoff. The biggest discrepancy has been in the just adequate teaching by senior residents and instructors. This, I expect, will be improving each year.

The attending staff was somewhat inadequate. The residency program and hospital are operated in a manner emphasizing medical students and attendings with poor emphasis on resident training. The staff in general and especially the subspecialties are not interested in primary care.

When I initially came here, the situation was chaotic and the instructors were generally inadequate. Things are now improved, but I wasted at least a year.

There is a definite need for more elective time in this program to broaden the base of information—dermatology, orthopedics, ENT, surgery (minor surgical techniques), etc.

This is by far one of the best, if not the best residency, in the country; however, I do not feel there is a commitment to the welfare of the poor and those at a disadvantage in terms of obtaining adequate health care. There is too much structured time and not enough electives or opportunities for learning exchanges with other programs. Here we have rested on our laurels and are not trying to correct the program's weaknesses, mainly its mediocre medical teaching and its somewhat tense Ob/Gyn relationships. My experience on all services has been fantastic in terms of availability and clinical variety however, there has been little time for reading or outside endeavors. I was without a partner for a while and then I've had to change partners. When trying to do OB for FM we get no compensation in terms of time off from other services. Changes in the curriculum are effected sometimes by edict, and things don't run as democratically as they should. Oftentimes it seems as if the residents come last in the scheme of things. As an Afro-American I have felt an estrangement here, which has been different. I'm sure my outspokenness has contributed somewhat to this, but I also perceive in this community the attitude that I've got mine and I'm not about to rock the boat to help others. The nicest thing about the program has been my patients who have learned with us and volunteered themselves for my edification.

Problems with lack of faculty and department chairman.

Most expectations are matched; the one weak area is internal medicine, in which I feel I need more training (a few more months). This is partly due to a medical service almost entirely private, with less house staff autonomy (decision-making) than I would like.

I was strangely idealistic about enjoying my internship. Don't believe the work was not satisfying or educational but the hours were too long. Also, I expected a more intense experience (educationally) in internal medicine than I got—function of this particular medicine department.

Poor clinical training in medicine.

Ambulatory experience has met expectations but inpatient subspecialty has not.

The program was even better than I had expected. The Chairmen, Drs. . . . tailored the program to our needs and interests and changed parts of the program which did not seem to be working—this was far beyond the "call of duty."

The medical clinic experience has not been optimal due to a non-medically sick patient population.

Most expectations met, but program becoming increasingly rigid with more service (and) less teaching. Indigent clinic taken over and now patients must be seen too rapidly, less personally.

Was very pleased with my primary care residency.

No definitive training in working with patients as outpatients. Teaching of outpatient follow-up, and care similar to inpatient training, lacking.

The following statements were obtained from residents in the Federally supported residencies. Statements of residents in the Boston program are not included here but are part of statements above dealing with the Robert Wood Johnson Foundation supported residencies. Repeating them here would enable the reader to identify those statements directed toward the Boston program.

Program less flexible than I had hoped.

What the program under Dr. --------- had promised has been delivered and (?), in retrospect, the type of training has exceeded my expectations, but mainly because of the quality of the internal medicine training.

First of all, when evaluation a "primary care" program one has to specify the particular medical center being considered and in this medical center, for reasons upon which I will not elaborate (some of which are political,) I think primary care should be initiated through the straight medicine program. Therefore, the crux of the program would be straight medicine with "electives" - not a separate training program with different outpatient responsibilities, etc. My dissatisfaction with some aspects of the primary care program here are not the result of unfulfilled promises. Rather, they are related to the change of philosophy in medical education and the change in my medically related interests and ambitions during my training.

In summary, the internist should be the source of primary care for adults, and I feel that he is best rained in this medical center through a straight medicine program. I think the emphasis on outpatient care in this program is inappropriate, and that in-hospital training in a short 3 year residency is the crux of an internist's training.

Clinic experience has not yet been structured adequately in terms of facilities and personnel therein.

The program is new, and specified training in some subspecialties that we rotate through is not performed as scheduled, as of yet.

I believe that many apsects of outpatient medicine aren't taught effectively and exposure to these areas is inadequate. In order to teach these properly to housestaff one needs outpatients plus faculty both interested and "expert" in outpatient medicine both on a clinical and a research level. The same degree of intensity and scientific prowess should be devoted to this as to inpatient medicine. Our clinic experience has been a large disappointment. There has been no sustained, competent teaching effort.

Not enough input from allied health personnel. Insufficient time for each patient. Lack of a nutritionist.

Expected more pediatric patients seen in out patient continuity clinic. Unable to attend primary care seminars (due to) time limitations and scheduling. In general, feel more like a straight medical intern in many respects.

Not as much teaching and time to learn clinic medicine as I would have wished.

Main problems relate to (hospital) and the (city) politically and financially.

The program has not the strength in numbers and allottment of faculty time and resources to quickly develop a strong independent curriculum. It is more clearly a subsidiary program than I expected.

Appalling lack of secretarial and nursing help in the clinics makes practice difficult.

Primary care program has broadened my scope of educational experience by permitting electives in other specialties of great use in ambulatory medicine. I have found in general however on ward rotations that the attending staff is very oriented toward their subspecialty and often cannot add appropriate degree of sophistication outside their subspecialty.

Had expected a more structured approach to the teaching of and research in psycho-social-economic factors in health care delivery.

Not enough formal teaching has been offered in issues pertinent to ambulatory internal medicine.

Largely due to limitations of a city hospital (or at least our city hospital) re: money, adequate personal we are not able to be freed up enough to fully participate in primary care activities - clinics, conferences. We are all too busy in our own regular work places to function at all as a group of people practicing and learning primary care.

Poor clinic set-up for primary care both in terms of rendering service and learning about primary care. Good cross-over with 2 months in adult medicine.

Inadequate financial and ancillary aid support for out patient care secondary to financial and economic status of (name of hospital.)

In general, it has met my expectations, but I had hoped for a stronger tie between my in-hospital experience and my work at the neighborhood health center. I am usually unable to continue to follow my patients once they leave the hospital because they don't live in the catchment area of the (name of hospital.)

Very poor working conditions, but they obey economical reasons of this particular hospital and not the training program itself.

The setting in which we receive our training in delivery of primary care is quite understaffed and poorly organized. Very little ancillary service is provided and the number of patients that one can see, while providing good care and learning, is quite limited.

I don't believe that the program fulfills many of its far reaching goals. It has neither the staff or the money to provide what it claims to provide.

(1) (Hospital based) primary care center poorly organized making it difficult to provide good primary care. (2) "Team" participation in care not well integrated until third year. (3) Psychosocial aspects of care appropriately were emphasized, but mostly from a traditional adult psychiatric perspective without integration of other disciplines.

Overall the experience was positive and enhanced by clinical training skills. However, I was hoping to learn how to organize the elements of medical care in order to provide optimal primary care and increase the number and type of intervention skill for complicated psycho-social problems. These last two items were not fully realized.

A very difficult question requiring long discussion.

The program promises more than it delivers. The heavy work load of the hospital limits primary care training.

The program pays more lip service to interest in social change than it does in being experimental and nontraditional. The faculty being hired are more traditional than I would like to see in short this program is as liberal as they come, but at this time it is better than any other existing program. There's room for change.

(l) Insufficient hospital training. (2) Problems with the pairing system.

Sometimes I question the adequacy of clinical experience, but overall am satisfied; expectations for social medicine opportunites have been more than fulfilled.

Perhaps the program is too flexible, with not enough required training specific to primary care, i.e., GYN Derm, Ortho, etc.

I expected more experience in internal mediicne-related subspecialties at an earlier time within the program.

I didn't realize that all the extra conferences and half-day per week extra clinic obligation would exist without any decrease in ward obligations to make time for them.

Less than adequare precepting and supervision. Lack of support from Pediatirc Department.

The program at (name of hospital and clinic) is generally well run, but as all hospital based programs there is always the problem that clinic is an added on responsibility, i.e., your ward duties accumulate while you are in clinic, generating a tendency to spend as little time as possible at the clinic.

Chairman of our Pediatrics Department withdrew support from the program.

The program has basically lived up to my expectations, but I would like to have some more experience in specific areas (i.e., ENT, orthopedics.) Also I feel we should have some more supervision (i.e., not having people sitting in on clinic sessions, but maybe discuss a topic once a week.

The program did not have the involvement with the community that I expect or the commitment to it. It certainly provided the flexibility to do something on your own.

I expected better exposure: To quantitative epidemiological issues; to a rational and scientific basis of clinical medicine; to minority health physicians. There has been excellent outpatient experience, flexible time to pursue interests, and a decent inpatient experience. I also expected a more mature, and broader-minded faculty.

Although my expectations were generally met, I would like to see more emphasis on basic and advanced principles of primary care in resident training done on a formal level.

It was my expectation of (the Program) and myself that we would be able to more effectively, and with greater emphasis, focus on social issues and structures which effect health and disease, but I did not find this to be the case in the setting of an acute care traditionally oriented medical faculty.

APPENDIX N

RESPONSES TO "WOULD YOU REAPPLY TO THE PROGRAM AGAIN?"

Am generally pleased with primary care program; would consider evaluating other departments of medicine.

I would apply to either straight pediatrics or a specifically designed family practice program.

If I went to medical school, yes.

I am not interested in "primary care" per se. I think this is a degrading, humiliating term that should be changed. I feel strongly however that all internists should train in the manner that I am training, i.e., with considerable emphasis on ambulatory, on-going care, doctor-patient relationships, economics and conservation experience in non-medical specialties which complement the practice of internal medicine.

This isa difficult question to answer as it was through my Primary Care Program that I was introduced to Ophthalmology. This subspecialty then captured my interest and enthusiasm. I consider this change in direction secondary to (1) Experience gained in Primary Care, (2) psychological growth with reordering of priorities, (3) some degree of dissatisfaction with the role of Primary Care physician as it now stands. Having asked myself the above question on numerous occasions, I have reasoned that I probably would have taken this residency since, at the time of that decision, my interests unquestionably lay in Primary Care Medicine.

Absolutely not. I am leaving this program at the end of this year. I am changing to a Family Practice Program. The way the Primary Care Program is designed there is no time for subspecialty electives (except 5 months over the three-year program). I do not believe anyone can pass the Internal Medicine Boards with only 5 months of subspecialty. The teaching in this institution is non-existent for housestaff. For most of the 3 months I was at the . . . . hospital there was no attending staff to supervise. The senior-most person was the second year resident. The program here is designed to staff the hospitals with people with M.D. behind their name, not to teach us.

Good question.
? Family Medicine I believe (is) in. I'm not sure this program has been the best for me in view of my ethnic background and outspoken views.

I thinkthe program was ideal for my interests, but because I tended to Dermatology. I probably would not apply to enable another intern the full three years in the program.

I am happy with my internship, and especially with the excellent quality of teaching provided by the directors of my program. I've decided not to continue with a residency at (name of university) because further training in internal medicine at a tertiary hospital and very advanced technology-dependent university research center would serve my purposes less well than a broader training program (e.g., emergency room residency) at a county hospital. In hindsight, therefore, I would have chosen a different internship so that someone could have taken my place who would have continued with the program.

The following statements were obtained from residents in the Federally supported residencies. Statements of residents in the Boston program are not included here but are part of statements above dealing with the Robert Wood Johnson Foundation supported residencies. Repeating them here would enable the reader to identify those statements directed toward the Boston program.

Yes. But I might rank another program higher (name of program) simply because the law has now been clarified and I could fulfill my service obligation (2 years) in their straight medicine residency.

Perhaps. A very difficult question to answer at present.

Not sure.

If I were interested in doing primary care - yes; as I am not - no.

Except that going through a straight medical (internal medicine) internship is hell.

I still would choose primary care, (but uncertain about this program).

This is a hard question to answer. Given my situation in 1975 this undoubtedly offered me the best possible training, a promise for internal medicine training, and was geographically suitable. However, if I had the choice of primary care vs. straight medicine I would choose the latter in this medical center.

Am generally pleased with primary care program; would consider evaluating other departments of medicine.

I would apply to either straight pediatrics or a specifically designed family practice program.

APPENDIX O

WHAT RESIDENTS THINK THEY WILL BE DOING IN FIVE YEARS

Hopefully working in group practice as General Internist.

Practicing general adult medicine and Pediatric Ambulatory medicine in an urban setting—possibly group or Health Center practice.

Group practice or comprehensive clinic in inner city—large or medium sized city serving Black population.

Working in and with a medical clinic.

Combining practice and teaching in a moderate sized community hospital—small group practice involved in alternative models of health care delivery—prepaid practice, salaried health workers, down with hierarchy, up with patient involvement in their own care, routine audit of medical records.

Working a 50-hour week in a neighborhood health center caring primarily for adults.

Practicing primary internal medicine/studying and teaching.

A blend of group practice, hospital-based care and some academic activity.

Delivery (of) primary care in a setting where physicians are scarce (i.e., urban underprivileged neighborhood).

Public health—research and development of programs concerning health care planning and intervention on population level.

Delivering health care and researching the role of psychosocial factors in disease etiology.

Working in neighborhood Health Center, if ties/adm. privileges to local hospital; group practice type responsibilities. Possibly side interest in occupational health.

Practicing in ambulatory care unit at teaching hospital, teaching residents in primary care, doing research in primary care.

Providing primary pediatric care to families in a defined community.

I'm not sure—perhaps part-time clinical clinic/ER type work plus more organizational or theoretical type of work within health care.

Taking care of brain damaged children and adults—probably in a State institution.

I have no idea—I may not even be in medicine.

Family centered care and family therapy.

I'd like to be working in a neighborhood health center or other cooperatively-run clinic (with decision-making by providers and consumers). I'd also like to be involved in some aspect of teaching medical students and house staff in a primary care setting.

Teaching and practicing pediatrics. Serving as a role model or International Health career.

Practicing primary care in a group practice or clinic setting.

Either working in a health center or practice serving low-income or working class patients. I would like to be a member of the community I would be working with.

Private or group practice with an affiliation with a medical school in a faculty position, training primary care givers.

30% part-time practice in small group.

Involved in a comprehensive Primary Care delivery system in a rural area. Working with other Pediatric, Internal Medicine and Nursing personnel in a small community based center. Hopefully within 100 miles of a teaching center so that housestaff and student might rotate through the rural center and patients might be referred in.

Practicing primary care pediatrics and developing health care policy for children.

After finishing my training this June, I will be joining the Department of Medicine at the University of . . . . There I will be a member of the Division of General Medicine, being their representative to a 3 physician Primary Care Group Practice. This practice will serve as a model practice for 3rd and 4th year students' exposure to primary care practitioners.

Direct general ambulatory care with a preventive bias and a special interest in psychosomatic illness.

Private practice rural New England—Pediatrics.

Involved with a family practice training program.

In group practice with limited OB.

Primary care in a county clinic—ambulatory care; living in rural setting with medical center or large hospital with all major specialties available for consultation or referral.

Multispecialty group practice in moderate size town.

Group practice, small town.

Director of Family Practice Residency.

Private practice in group practice setting.

Being medical director and practitioner in a 4-5 person group practice, while researching and writing about effectiveness and efficiency of health care.

Group practice (in a multispecialty group—medicine and pediatrics), plus or minus University affiliation for teaching purposes (not for academic advancement) and perhaps a little research in health care delivery or medical education fields.

In 5 years I can see myself doing any one of four things. Geographically, I see myself living in a fairly large city. I would like to be working either in a pediatric medical center clinic with clinical, teaching and research responsibilities or as a general pediatrician in a prepaid or possibly group practice or possibly small community hospital with mainly outpatient responsibilities.

Primary Care—teaching—Epidemiology Research priorities in that order—probably in a university related primary care setting.

Director of Ambulatory/EW Medicine with subspecialty experience in one field of internal medicine.

Can't say.

Mix ofclinical work and either health service research and/or program development.

Principally general internal medicine in a teaching hospital with some subspecialty consultation and research.

I hope to be teaching emergency medicine in a university with a limited short follow-up practice of my own.

Practice in a group.

Delivering primary care as a member of a small group, preferably each with a special interest but each delivering primary care. Probably near or in a large city.

Group practice.

Ideally splitting time among three tasks:
(1) Developing public policy in health as it relates to primary care.
(2) Direct care
(3) Teaching students

I would like to combine primary care practice, teaching and research. I will most likely be affiliated with an academic medical center. I am interested in investigating common clinical problems and organizational/delivery issues.

Combining a clinical practice (almost certainly in a group setting) with the development of preventive programs (for example the development and implementation of programs identifying and eliminating job-related health hazards).

Director of Ambulatory Care section where there is an active research practice and health delivery.

Providing primary care either in private practice/clinic setting, perhaps with teaching and administrative roles.

Practicing Out-Patient Department; office medicine in the Cambridge area, perhaps with some teaching responsibilities.

Thoroughly unclear for now.

50% time practice in small group. Balance of time divided in number of pursuits—some related to community medicine; others far afield.

Seeing patients as primary care provider part-time, probably in a medical-center-related group practice, spending rest of time on teaching and research directly related to primary care.

80% direct patient care, 20% teaching.

Working in an HMO type clinic in preventive medicine.

Possibly private practice with part-time teaching at a medical school.

Rural medicine—clinic based—outside Quito, Equador.

Possibly running a university Health Service. I may be switching to Pediatrics.

Multidisciplinary group specializing in social medicine, and behavioral approaches to medical problems. Teaching, writing and lobbying for humanistic medicine. Psychosomatic research. Training practitioners in methods of "alternative" health care.

Family Medicine with Obstetrics in warm climate semi-rural with group of 4–5 with limited call responsibility, good specialist back-up, near a big city with academic ties with same.

Nearly full-time practicing with perhaps 20% time in primary care research and 10% in teaching medical students.

For next 10 years I wish to do several varied short term commitments, thereafter to establish a rural private small group family practice.

Family medicine in a group practice in a community of 5-10,000 (probably in rural setting).

Group practice in smallish town (10,000-40,000) preferably with residence in the country.

Rural group in outdoor oriented area.

I'm not sure—I'm joining another MD in practice this summer on an island on the Maine coast. If all goes well, I'd hope to be involved in providing care, educating students and residents, influencing community decisions about health care questions, and hopefully at least attempting to apply some research methods to my own practice to be self-critical.

Family practitioner in a small New England town; not doing OB; a small but humanistic, relaxed practice. Night call as infrequently as possible.

Providing insightful sensitive and technically excellent care to a spectrum of patients according to my interests at that time.

Research practice in small community in group, probably doing Obstetrics in context of Family Centered Care.

Taking care of my community patients in an organized fashion, hopefully incorporating most of the Residency Training, having good records and teach precepting students at a University Family Medicine Program.

Member of four man group with several small offices in rural area.

Working 50-75% of the time in a rural family practice situation with the remainder of the time to be devoted to Family Practice Teaching—resident or student level. Some interest in working spare hours for national political problems of Family Medicine—Patient Care Problems.

Practicing Family Medicine with some part-time teaching.

Not sure if I'll go into Primary Care.

Be a member of a group practice or colleagueality in North Central Iowa, primarily delivering care to a predominantly farming population.

65% Internal Medicine with subspecialty in Pulmonary disease (35%) as consultant.

Primary Care or Internal Medicine with emphasis on Endocrinology, perhaps associated with university.

Primary Care and teaching.

Doing general internal medicine.

Family Medicine in group practice.

Medium sized group in HMO or government sponsored context. Urban or semi-urban. No OB. Teaching and/or research possible.

Would intend to split time between primary care and teaching of child development and behavioral pediatrics to HO's and medical students—hopefully in academic setting.

Actually I will be practicing subspecialty of Nephrology.

Combination of primary care and university (teaching hospital) teaching.

Private practice of clinical immunology and general medicine (adult). Medical school teaching appointment with undergraduate and postgraduate teaching duties.

Working in a salaried position in a prepaid or similar health center—or—part of a partnership (at least 4 man) in a small community.

Referrals for pulmonary in addition to ill primary care patients in a university affiliation.

I'd like to be acting mainly as a "triage" physician for some adult patients (assuming I can get some more training in internal medicine) and as a primary physician to a larger group of pediatric patients.

Practicing in a semi-rural area with a group.

I would like my career to be in international health. Eventually I would like to study the ideal allocation of health funds and medical care delivery systems in underdeveloped countries. Before that time, I would like to accumulate a large background of clinical experience in the third world. I don't know yet whether I'll be practicing primary or secondary care.

Probably group practice, general internal medicine.

Practice primary patient care in small medical group.

Directing a primary care program in a university setting.

Living in the foothills; having own practice but with contact with medical training program.

Practice.

Practicing Internal Medicine in a HMO Group Practice.

Academic setting—teaching with some private patients.

Private practice with other like-minded MDs, and nurse-practitioners.

Practicing a high quality of medicine, scientifically and artfully, as a trusted associate of the families in my practice.

Probably deliver primary pediatric care—not sure in what setting (clinic, large group, etc.)—maybe teach as well.

Working in a public health clinic-type setting serving underprivileged (high need) pediatric population—either inner city or rural (migrant workers . . .).

Practice of internal medicine with rheumatology as a subspecialty, but in what context?

Practicing General Internal Medicine; attending at a university medical center.

Living and working in a small-medium sized community (hopefully within an hour of a medical center) practicing pediatrics and/or general medicine in a group with friends, using a team approach, working 4 days a week.

Practicing in a group as a pediatric Primary Care provider.

Not certain—but would hope to be primarily engaged in independent practice (or group practice) with part-time teaching responsibility.

What Iam doing now: Private pediatrician in small, rural community.

Working as a Primary Care pediatrician in an inner city neighborhood health center with ties to a larger medical center.

Internal medicine practice in a moderate sized community.

Just what I'm doing now. Teaching 1/2 time at the university and in practice privately 1/2 time in general medicine. I currently have interests in psychiatry, gynecology and ENT and hope to "keep current" in these areas.

Ideally having private practice with limited teaching affiliation.

Work in group practice with affiliation at a medical school, some teaching, probably in an urban setting.

Part time patient care but majority time doing health services research.

60% primary care, internal medicine/patient care; 20-30% teaching/administration; 10% open time.

Clinical cardiology preferably with hospital-based group.

General internal medicine with part practice, part teaching responsibility in a middle sized New England town.

Rural practice, namely in Internal Medicine, possibly in situation such as the public health service.

Small private practice with time available for my wife and family and hobbies. I would also like time so that I could provide a rare house call and a rare nursing home visit. I would like to be a top internist but I have not had the case exposure here yet to expect that. I might need some postgraduate training in addition to residency.

Practicing primary care in rural Oklahoma.

General internal medicine plus routine pediatrics.

Small town practice (less than 10,000), delivering majority of health care needs except surgery. Enjoy aspect of taking care of entire family over extended period of time.

Helping people help themselves through improved health care, better health education and community health involvement.

Not sure—emergency care vs primary care vs internal medicine consulting.

Working in combined administrative teaching and clinical role in health center or hospital pediatric ambulatory care setting.

Working in a rural or semi-rural area with a small group of family practitioners (e.g. 8–10) and accessible specialty back-up; especially OB referral. I want to do early prenatal care, shared with an obstetrician (but not deliveries), and follow the mothers and children thereafter, along with the rest of the family.

Mostly Internal Medicine and Pediatrics in rural area hopefully in a small group practice.

Tended to Dermatology.

Practicing medicine, possibly associated with an academic center—i.e. with teaching responsibilities or possibly practicing medicine abroad in an underdeveloped country.

Office with 2 to 3 other primary care MDs and 2 or 3 PAs located in periphery of city serving surrounding country side yet within reach of cultural aspects of city.

I don't know, but I don't if I will remain in current status (sic).

Half time primary care. Half time classroom teaching. I do not want to involve myself in business aspects of practice.

Will be practicing dermatology.

Not sure. Possibilities (are) (1) Teach FP (and) (2) another specialty.

ER.

Member of a primary care division in a university teaching hospital.

General practice.

The following statements were obtained from residents in the Federally supported residencies. Statements of residents in the Boston program are not included here but are part of statements above dealing with the Robert Wood Johnson Foundation supported residencies. Repeating them here would enable the reader to identify those statements directed toward the Boston program.

Working in ambulatory care clinic with government (state, federal) practice in "smaller" type city (less than 500,000.)

Private practice of internal medicine in a group in a city of 200,000 or up.

Private practice in internal medicine in a small internal medicine group.

Working in a group practice delivering primary care.

Practicing in a 3 or 4 man group in internal medicine in a (medium sized) town.

Do not know yet.

I cannot answer this question because I have switched to ENT after completing one year of family practice residency and two years of primary care residency. I will begin ENT in July 1978, after completing this year of general surgery.

Hopefully working in group practice as general internist.

Practicing general adult medicine and pediatric ambulatory medicine in an urban setting, possibly group or health center practice.

Group practice or comprehensive clinic in inner city, large or medium size city serving a black population.

Working in and with a medical clinic.

Combining practice and teaching in a moderate sized commmunity hospital; small group practice involved in alternative models of health care delivery - prepaid practice; salaried health worker; patient involvement in their own care; routine audit of medical records.

Working a 50 hour week in a neighborhood health center caring primarily for adults.

Practicing primary internal medicine, studying and teaching.

A blend of group practice, hospital-based care and some academic activity.

Delivering primary care in a setting where physicians are scarce (i.e., urban underpriviledged neighborhood.)

Public health - research and development of programs concerning health care planning and intervention on populatoin level.

Delivering health care and researching the role of psychosocial factors in disease etiology.

Working in neighborhood health center with ties/admission priveleges to local hospital; group-practice type responsibilities. Possibly some interest in occupational health.

Practicing in ambulatory care unit at teaching hospital, teaching residents in primary care, doing research in primary care.

Providing primary pediatric care to families in a defined community.

I'm not sure. Perhaps part time clinical clinic/ER type work plus more organizational or theoretical type of work within health care.

Taking care of brain damaged children and adults, probably in a state institution.

I have no idea. I may not even be in medicine.

I'd like to be working in a neighborhood health center or other cooperatively run Clinic (with decision-making by providers and comsumers.) I'd also like to be involved in some aspect of teaching medical students and housestaff in a primary care setting.

Teaching and practicing pediatrics. Serving as a role model. Or international health career.

Practicing primary care in a group practice or clinic setting.

Either working in a health center or practice serving low-income or working class patients. I would like to be a member of the community I would be working with.

Private or group practice with an affiliation with a medical school in a faculty position, training primary care givers.

Thirty percent part time practice in a small group.

Involved in a comprehensive primary care delivery system in a rural area. Working with other pediatric, internal medicine and nursing personnel in a small community based center. Hopefully within 100 miles of a teaching center so that housestaff and students might rotate through the rural center and patients might be referred in.

Practicing primary care pediatircs and developing health care policy for children.

General internal medicine.

Delivering medical care in urban inner city utilizing a team approach.

Low to moderate volume practice in general internal medicine.

General internal medicine in a medium sized town near a university.

Combination clinical practice/administration.

Part-time clinical work combined with teaching, administrative, outreach, and community involvement activities (i.e., issues concerning housing, employment, training of community people;) also, I would like to continue my interest in the field of medical screening.

Part-time clinical medicine with teaching time for students of various health professions, some part-time administrative/management/planning jobs in a comprehensive neighborhood health center.

General medical clinic work.

Primary care practice in city plus some opportunity for continuing medical education.

1) Working in a relatively small community with 1 to 3 other physicians in a rural, not presently well-served area, with hospital facilities available, or 2) In an ambulatory facility of a large urban medical center with significant teaching responsibility and some patient care opportunity (30-40 percent.)

Primary care clinical pediatrics working not only the biological aspects but also the psychological and sociological aspects of illness and health in children.

Clinic practice OB and pediatircs.

Practicing in a neighborhood health center or HMO devoting part of my time to education and research in primary care.

I would like to be working in a clinic or practice. I would like to be in an urban area, not necessarily New York City. My internal medicine practice would include a heavy GYN emphasis.

Working in an urban community health center.

Working in an inner city clinic.

University medical center professor-type or post graduate research.

Working in a neighborhood health center in an inner city, at present looks like I'll be working in a model cities NHC.

Doing part time clinical work and teaching. Investigating and planning preventive programs using community and primary care sites as basis. Investigating relationship between medical and social phenomena (e.g., work-stress-disease.)

Medical director of HMO with part-time clinical and part-time administrative responsibilities with certification in pediatrics.

Part-time outpatient clnicalwotk with faculty position in community/social medicine (with teaching and reserach reponsibilities.)

Fifty percent continuity of care - community oriented comprehensive health care delivery-clinical; twenty-five percent administration of health delivery system; twenty-five percent community outreach, teaching.

Work in an urban clinic; be involved in setting up and organizing urban clnics through government program or working for WHO.

Patient care in a facility dedicated to innovation and change in health care delivery in an underserved poor area.

Working in a clinic or group practice in upstate New York, satisfied and happily married.

I honestly have very little idea at this point. However, I think I would like a situation that allowed me to both practice and teach.

Working in a clinic/group practice with special interest in alcholism. I might well opt for working only 30-40 hrs/week at that point in order to spend more time with my family.

Practicing pediatircs in an HMO/Prepaid Group/multi-specialtyGroup/Community Health Center.

Work in a group, possibly a pre-paid medical plan and have a reasonably circumscribed work week and call schedule (i.e., 40-50 hours, and 5-7th night.)

I plan to be practicing medicine in West Virginia, hopefully in a group practice.

Practice in a rural community with small hospital practice.

Small to medium sized community, rural surroundings, working with a small group, either internists or mixed, dispensing both primary and secondary care with a small hospital practice.

Practicing general internal medicine in group practice.

I would like to be practicing general adult medicne in setting in or near a large city. I am not at present sure what type of office organization, i.e., clinic, groups, etc., I would prefer.

Unsure.

Comprehensive medical practice, with nurse practitioner, PT and dietician in office or readily available. As well, to maintain a small subspecialty practice (G.I., Derm?) for variety and academic stimulation.

Private practice in group pediatric setting.

Private practice with some in-hospital responsibility.

Teaching primary care and practicing medicine.

Combination of primary internal practice with some teaching responsibility in primary care.

Am not sure.

I am flexible. I would perhaps like to start a clinic in an urban section of the country or get in on decision making process concerning health that is setting up standards for clinics, hospitals, etc., or perhaps both.

Enjoying my person through the practice of medicine by being comfortable in the community I selected and having the feeling of worthiness about by job.

I would like to be a primary care internist in a community health center affiliated with a medical school - practicing about 50% of the time, and 50% developing intervention skills and assessing the epidemiology of the pscyo-social factors in outpatient medical practice through research, and teaching residents and medical students.

Developing a program to take care of the adolescent population.

Working in a small clinic in a ghetto.

I will continue my subspecialty program in pediatric cardiology for the next few years.

Half clinical practice; half planning and evaluating community health problems, and teaching.

General internal medicine in multidisciplinary group practice.

Not primary care, but some area of medicine where it would be possible to have a broader effect on the structure and definintion of health care in our society.

APPENDIX P

COMMENTS OF INTERVIEWEES ABOUT WHY PRIMARY CARE RESIDENTS ARE "DIFFERENT" FROM STRAIGHT RESIDENTS

Professors

Primary care residents are more oriented toward seeing what can be done for the patient, but deemphasize bench research. They try to help the family of the child.

Primary care residents are more socially conscious. They are aware of economic problems to be faced up to in private practice.

Primary care residents have broader interests and are interested in other phases—not just pediatrics. They are helpful in the "chronic clinic". Pediatrics residents would be more likely to call a consultant.

On the average the primary care resident may be a little less sophisticated in medicine and less motivated toward the science of medicine for its own sake.

Primary care residents must work harder to carry the burden of straight medicine and community work. The primary care residents are as good in a scientific sense, and they have these other interests.

Primary care residents are comfortable with problems of adolescence. They are willing to work as a team. They are better prepared to begin office practice. Primary care residents are better skilled in psychiatry and adolescent medicine.

Primary care residents are more responsive to GYN problems. Primary care residents are more comfortable with adolescent medicine.

Primary care residents' exposure to OB/GYN is limited.

General medicine residencies as opposed to specialty residencies are more thorough and comprehensive. Specialists don't see the big picture.

Primary care residents are more involved with patients than sub-specialty oriented types.

Associate Professors

Primary care residents are more adaptable in tackling more kinds of problems. They are more at ease with uncertainties of medical diagnosis and therapeutics.

Primary care residents do not, by choice, have an interest in some of the more academic cases. They are less interested in detail.

Primary care residents are different in ideology, attitude, and responsiveness to broader issues.

Thereare no differences. Primary care residents are as good as pediatrics residents —good doctors—good people.

Primary care residents differ in career orientation and goals. Primary care residents are interested in primary care issues. Two-thirds are academically capable and one-third are not and perhaps would not have made it through the medicine program. One-third came after internship and are not as sharp.

Allowing for individual differences, primary care residents are equally competent with other residents in the clinics. I see no distinction.

Primary care residents tend toward the psychosocial. They are more outspoken socially.

Primary care residents at first were less decisive. Now it is changing as new residents come in. Sometimes they are too psychosocial.

Primary care residents are more family oriented than surgery residents.

Primary care residents are more oriented toward family practice in a rural setting as opposed to a metropolitan setting.

Assistant Professors

Primary care residents see medicine as family oriented more so than straight medicine residents. Primary care residents are probably equal to internal medicine residents in general, but their training is more diffuse.

Straight internal medicine residents emphasize inpatient care and primary care residents emphasize outpatient care.

Primary care residents have more psychosocial conscience. They have a willingness to change the imbalance in training. They have a commitment to outpatient care.

Straight medicine resident's goal is academic research. Primary care residents want to practice vs. teaching clinical medicine.

It is unreasonable to expect primary care residents to do as well as internal medicine residents because their approach is different. Less concentration, but not bad!

Primary care residents see a broader range of problems. They come here because of the program.

Primary care residents tend to have broader interests and breadth of outreach.

Primary care residents are trying to find themselves.

Thereare motivation and strong personality differences between the groups of residents. Primary care residents are attuned to interpersonal processes. They deal with people.

Primary care residents are more comfortable dealing with people.

Primary care residents develop different approaches in dealing with the family. They do well with teaching and alleviating family guilt.

Primary care residents are more oriented toward community medicine.

Medicine Residents

Primary care residents are more oriented towards their role in the future. They have already picked their lifetime role, hence they go in primary care. It is more a matter of deciding where to go rather than what to do.

Primary care residents choose primary care because of personal taste rather than any difference in expertise.

Primary care resident's interests are different. They are more interested in practice.

In terms of long-term goals, most primary care types lean toward practice, whereas straight residents may tend toward academic medicine.

Primary care residents are different in that they are interested in policy, but not in practice or in research. They have fewer role models and can plan and do plan their life with some "risk".

Primary care resident's orientation to outpatient medicine is different, but this is a part of the teaching program.

Residents are quite similar. I worked as an intern with primary care residents and saw no differences. I was not aware of primary care residents as a group until it was pointed out.

Primary care residents are not really different.

I see no difference. Is it worth the money to run this separate program?

Primary care residents have more opportunity to take non-medical rotations that are still useful.

Primary care residents have slightly more autonomy.

I feel less comfortable with primary care residents in the emergency room and in ICUs.

Primary care residents are not oriented toward literature, but more toward delivery of health services. They are more attuned to the needs of patients beyond the presenting of medical problems.

Primary care residents are less aggressive in initiating therapeutic or dx procedures.

Primary care residents are more family oriented. They are aware that a person is not separate from his family. They are more person oriented than disease oriented.

Primary care residents have more outpatient clinical experience. Willing to utilize skills of nurses and social workers more.

Primary care residents have a commitment to primary care/ambulatory care. They often are interested in patient's relationship with family and community. They are more able to make outpatient scheduling of activities.

As a group, primary care residents are more interested in patient contact.

Primary care residents are more interested in the total person and more interested in patient followup.

Primary care residents seem more interested in psycho-social/family medicine practice.

Primary care residents place less emphasis on organic diagnosis—physiological aspects. Primary care residents have broader knowledge, but lack the depth of straight medicine residents.

Pediatric Residents

Primary care outpatient management is better. They are weaker in inpatient aspects.

Primary care residents are more academically oriented. They devote less time to "extended" care.

Primary care residents know some adult medicine.

The primary care program provides for adult medicine.

Primary care residents are not as pleased with the program as are pediatrics residents.

Sub-specialists are more interested in the object (i.e., hemotologists in blood), but the primary care residents are interested in what is going on in the patient's head.

Primary care residents are oriented toward people. They are more general.

Primary care residents are more rural oriented. They know what they will be doing and have plans.

Surgery Residents

Primary care residents are more academically oriented. They utilize Pharm Ds more.

Primary care residents utilize Pharm Ds a lot. Pharm Ds are more available to primary care residents and thus used more.

Primary care residents are friendlier, happier, and enjoy work more, but they try to do too much. They help each other very well . . . cover for each other at night. They love their clinics.

Primary care residents are more broadly trained, but more superficially trained.

Primary care residents have a broader, less detailed fund of knowledge.

Primary care residents are more at the roots; primary care residents see patients as persons with medical problems; straight medicine residents see patients as educational experiences.

Primary care residents take a family-type approach. Continuity of care is important and they are interested in patients as people.

Other Residents

Primary care residents better utilize psychological skills because of their willingness to consider the family and the community. They have better dialogue with psychiatrists.

Primary care residents are interested in the total care of the family rather than one-time contact . . . long term care. Data base must be larger for family practice than for internal medicine diagnostics.

Primary care residents have a more practical approach to medicine than internal medicine residents.

Primary care residents are more concerned with people than with cases.

Primary care residents are more eclectic.

Nurses, Nurse Practitioners, Physician Assistants & Health Workers

Primary care residents are more willing to work with a team and with nurse practitioners and social workers. They have more respect for nursing. Primary care residents realize that in order to survive in primary care they will have to trust and utilize the team.

Primary care residents are more human. They are more willing to work with others on the team than straight medicine.

Primary care residents are more developmentally and behaviorally oriented. They work better as members of a team. They have better understanding of the role of the nurse clinician and social worker.

Primary care residents are much better educated to multidisciplined approach. They are more willing to share ideas with each other.

Primary care residents have more interest in ambulatory care and less interest in inpatient care. The nurse function is important on the primary care team. Primary care residents have a more social and humane orientation.

Primary care residents have a better overview of the patient as a whole. They are better related to other members of the health team, i.e., social service.

Psychiatric social skills are developed to a greater degree in this program. Primary care residents work well in teams and in rounds. They share information and tend to see a larger patient load due to continuity of care. They see patients again and again.

Primary care residents have a wider variety of skills—medical, social, community, etc.

Primary care residents are more interested in a variety of problems. Primary care residents are a more diverse group. Straight medicine residents often select patients with specific problems.

Primary care residents are more well-rounded and more goal directed.

Primary care residents first look at it as "medical" rather than as pediatric. Primary care residents are more rounded as clinicians.

Primary care residents are more concerned for patient follow-up. They are more interested. They attempt to keep the patient out of the hospital.

Personality differences are not necessarily germane to primary care. Primary care residents tend to follow patients more from outpatient to inpatient status.

Primary care residents are different in how much time they have to spend with the people theywork with.

Primary care residents have a more humanistic and holistic approach. They are more realistic in terms of money and patient's ability to cope and in their ability to effect a cure.

Primary care resident's attitude is more oriented to patient and to problems.

Primary care residents are more concerned with the total patient and the social aspects of the patient. This is more a virtue of the program.

Primary care residents are interested in providing quality care to more people. They are more socially aware and more aware of the need to get involved in prevention and early detection. They have a goal to work as primary care physicians. Other residents have not yet committed themselves.

Primary care residents are more in tune with the whole patient.

Primary care residents are more interested in people.

Primary care residents have a better sense of dealing with well children.

Others

By theend of the program the primary care residents are more interested in ambulatory care. Probably due to the logistics of curriculum than to fundamental differences.

Primary care residents are more people oriented, continuity-of-care oriented, and more ambulatory oriented.

Primary care residents are more clinically enthusiastic. They are more willing to be on call at night for ambulatory patients.

Primary care residents have a sense of picking things up on an ambulatory basis. They are much more understanding of the team approach.

Primary care residents are more holistic in their approach. More willing to turn over responsibility to other team members.

The kind of electives primary care residents take are different. Primary care types are more willing to work in a clinic than in a lab. They pick up different kinds of topics from grand rounds. They are more public health oriented than laboratory oriented. Primary care types are richer in psychosocial insights.

Primary care residents are more academically oriented. Our internal medicine program is traditional . . . go into private practice. Internal medicine residents have too much free time to take "easy" electives.

Primary care residents are getting anxious about specialty internal medicine training. Internal medicine residents want breadth. The tendency is to want a fourth year of residency.

Thereare some differences between residents which are perhaps due to pre-programming of primary care in medical schools. There are Board registry differences.

Primary care residents are initially indistinguishable. Some of the residents performed better than straight medicine residents.

Primary care residents are more enthusiastic. Primary care residents are better at research in community aspects of medicine as opposed to straight internal medicine residents who are good at clinical detail.

Primary care residents are just as good as pediatrics residents.

I only learned after a recent encounter that two residents were primary care and they were excellent.

Primary care residents seen at end of first year are probably better as a result of selection process and not a result of their training. Because of dual responsibility in primary care and EM the primary care resident has greater exposure to patients than a comparable straight resident.

Primary care residents are known better because they are here more.

Primary care residents are more interested in community care.

Primary care residents are interested in long term care.

Primary care residents are less directed. They are not sure what to do ultimately. They are more philosophically oriented.

Primary care residents don't know where they belong.

Do not know where they fit . . . in limbo.

Primary care residents are more critical of technology and less ready to use technical resources for patient management. They like patients more and like seeing patients more. They are not as interested in basic science questions and are more interested in work-up strategies.

Primary care residents are more approachable, but it is difficult to say whether they are more clinically competent than other residents.

Primary care residents are more comfortable with "self" when dealing with patients. The OPD experiences, psychiatry and the like make them that way. I wish all of the residents were like that. They are good role models.